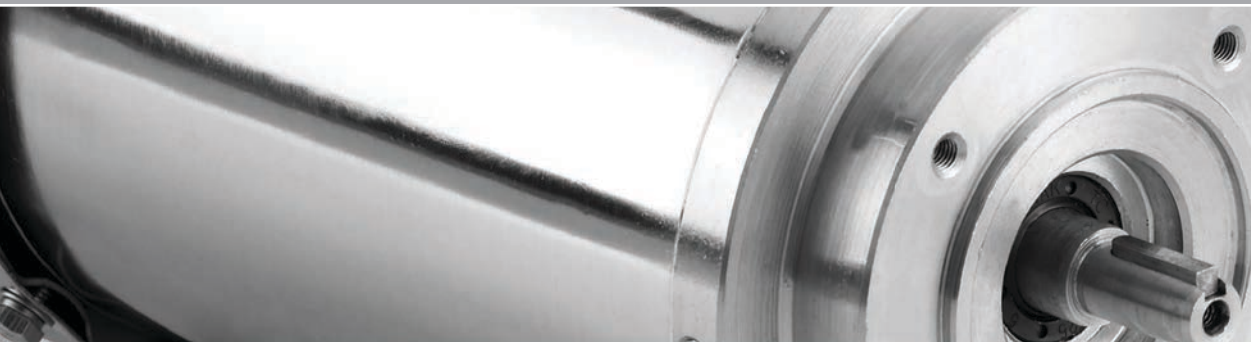




# Stainlesssteel-Gear



Gearboxes Made in Italy



DOSSIER ACCORDING  
TO 94/9/EG S. B II  
STORED



## Worm gearboxes and ratio multiplier

Riduttori a vite senza fine e uno stadio  
0.09 ÷ 4kW

WORM-GEARBOX



Catalogue code: CT-SSM-I-HM015



## IN THIS CATALOGUE

### Full Stainless steel - Worm gearboxes

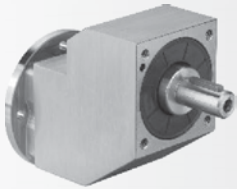


**Full stainless steel Worm gearboxes.**  
Vite senza fine completamente in acciaio inox.

See technical data table.  
*Vedi tabelle dati tecnici.*

Paragraph **8**

### Full Stainless steel - One step gearboxes



**Full stainless steel gearboxes with one stage of reduction.**  
Riduttori coassiali completamente in acciaio inox con uno stadio di riduzione.

See technical data table.  
*Vedi tabelle dati tecnici.*

Paragraph **9**

### Full Stainless steel electric motors



**Full stainless steel IEC motors.**  
Motori IEC completamente in acciaio inox.

See technical data table.  
*Vedi tabelle dati tecnici.*

Pag. M-3

# Stainless steel worm gearboxes

## STANDARD FEATURES

### Full Stainless Steel Housing

Special housing designed to keep adequate lubrication with low Oil q.ty to avoid internal pressures.

### Flange

Fully modular to IEC B14 and Compact integrated motor. NEMA C flange

### Options

Protective seals cup to stand high pressure cleaning for hollow or extended shaft version.

Output shaft interchangeable right or left hand output shafts available.

### Second bearing

Standard second bearing on motor flange side and two oil seals with vertical motor position.

Stainless Steel Hollow shaft.

100 % Factory pressure leak test.

O-rings on all closing covers.

Output seals (FPM-fkm) with external dust protection lips.

### Vent Free Design.

No breather or vents to leak! Factory lubricated for life with synthetic, semi-fluid gear lubricant with an operating range of -15°C to 130°C.

oil free

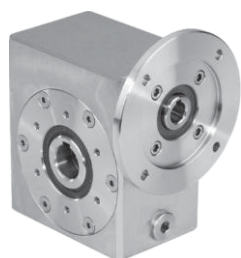


vent free

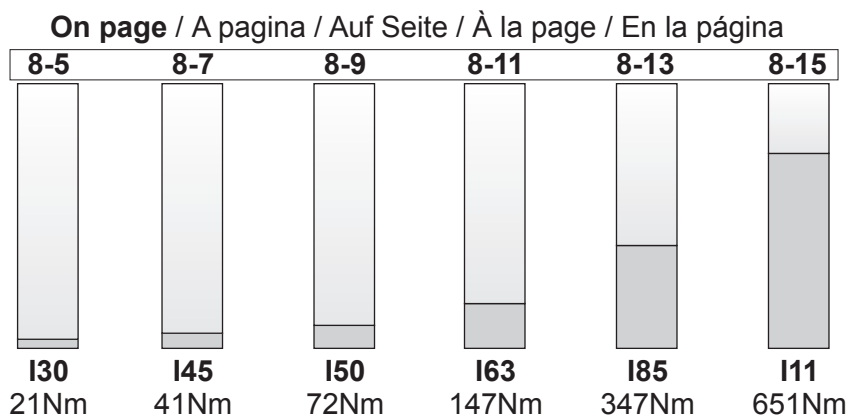


World wide sales network.

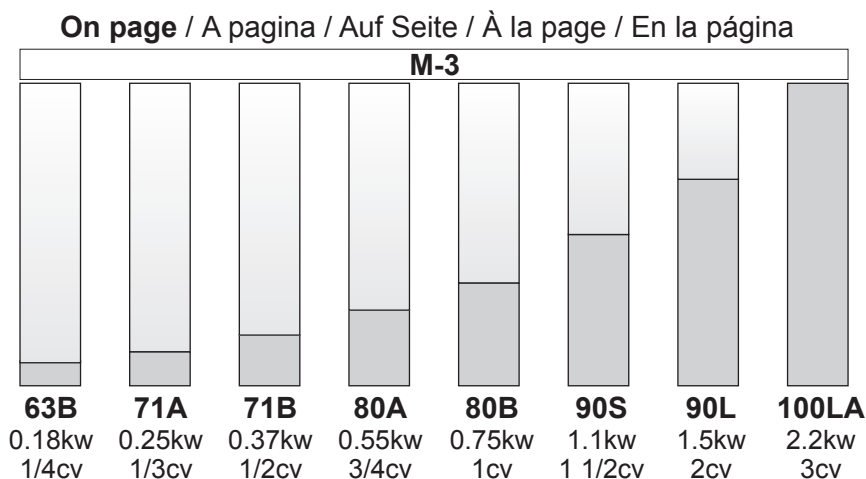
# Specific type datasheet on page...



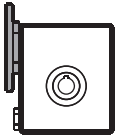

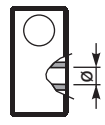
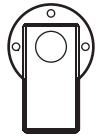
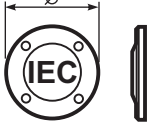
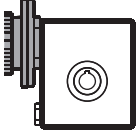
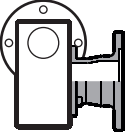
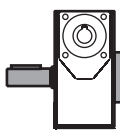
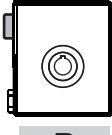
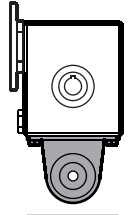
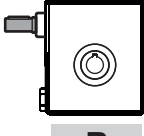
Types / Tipi /  
Tipen / Types /  
Tipos →



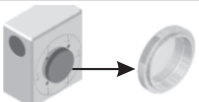
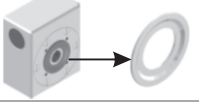
Types / Tipi /  
Tipen / Types /  
Tipos →





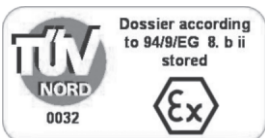
| Type - Tipo - Typ<br>Type - Tipo  | Size - Grandezza<br>Grösse - Taille<br>Tamaño                                    | Mounting - Montaggio<br>Montage - Fixation<br>Tipo de montaje  | Ratio - Rapporto<br>Untersetzung<br>Reduction - Relación  | Hub - Mozzo corona<br>Hohlwelle - Arbre creux<br>Nucleo corona  | Output shaft<br>Albero lento<br>Abtriebswelle<br>Arbre de sortie<br>Eje solida  | Motor size - Grandezza motore<br>Motor Grösse<br>Grandeur moteur - Tamaño motor     |                                 |                                  |                                 |
|---|--|--|---|---|---|---|---------------------------------|----------------------------------|---------------------------------|
| <b>P</b>  | <b>I45</b>   | <b>UN</b>  | <b>10</b>   | <b>I</b>  | <b>S</b>  | <b>-Q</b>   |                                 |                                  |                                 |
| <br><b>P</b> | <b>I30</b><br><b>I45</b><br><b>I50</b><br><b>I63</b><br><b>I85</b><br><b>I11</b> | <br><b>UN</b>                                       | <p>See technical data table</p> <p>Vedi tabella dati tecnici.</p> <p>Technisches Datenblatt beachten</p> <p>Voir Tableau données techniques</p> <p>Ver tabla datos técnicos</p> | <br>STANDARD<br><b>I</b> | <br><b>Ø</b>   |  |                                 |                                  |                                 |
| <br><b>M</b>  |  | <br><b>FL</b>                                       |   | <br><b>S</b>           |   |   |                                 |                                  |                                 |
| <br><b>B</b> |  | <br><b>BR</b><br>Full stainless steel<br>Torque arm |   | <b>X</b>  | <p>SPECIAL SERIES<br/>SERIE SPECIALE</p> <p><b>X</b></p> <p>I45 ⇨ ø19<br/>I50 ⇨ ø24</p> <p><b>INCH</b></p> <p><b>Z</b></p> <p>I45 ⇨ ø0.750"<br/>I50 ⇨ ø1.000"<br/>I63 ⇨ ø1.125"<br/>I85 ⇨ ø1.500"<br/>I11 ⇨ ø2.000"</p> |   |                                 |                                  |                                 |
| <br><b>R</b> |  |  |   |   |   |   | <b>-O</b><br>I30<br>56B14 (ø80) | <b>-P</b><br>I30<br>63B14 (ø90)  | <b>-W</b><br>I30<br>56C (ø6.5") |
|   |  |  |   |   |   |   | <b>-P</b><br>I45<br>63B14 (ø90) | <b>-Q</b><br>I45<br>71B14 (ø105) | <b>-W</b><br>I45<br>56C (ø6.5") |
|   | <b>-P</b><br>I50<br>63B14 (ø90)  | <b>-Q</b><br>I50<br>71B14 (ø105)   | <b>-R</b><br>I50<br>80B14 (ø120)  |   |   |   |                                 |                                  |                                 |
|   | <b>-Q</b><br>I63<br>71B14 (ø105)   | <b>-R</b><br>I63<br>80B14 (ø120)   | <b>-T</b><br>I63<br>90B14 (ø140)  |   |   |   |                                 |                                  |                                 |
|   | <b>-W</b><br>I63<br>56C (ø6.5")  | <b>-X</b><br>I63<br>143/5TC (ø6.5")  |   |   |   |   |                                 |                                  |                                 |
|   | <b>-D</b><br>I85<br>80B5 (ø200)  | <b>-E</b><br>I85<br>90B5 (ø200)  | <b>-U</b><br>I85<br>100-112B14 (ø160)   |   |   |   |                                 |                                  |                                 |
|   | <b>-W</b><br>I85<br>56C (ø6.5")  | <b>-X</b><br>I85<br>143/5TC (ø6.5")  | <b>-Y</b><br>I85<br>182/4TC (ø8.88")  |   |   |   |                                 |                                  |                                 |
|   | <b>-Y</b><br>I85<br>182/4TC (ø8.88")   | <b>-U</b><br>I85<br>100-112B14 (ø160)  |   |   |   |   |                                 |                                  |                                 |
|   | <b>-D</b><br>I11<br>80B5 (ø200)  | <b>-E</b><br>I11<br>90B5 (ø200)  | <b>-U</b><br>I11<br>100-112B14 (ø160)   |   |   |   |                                 |                                  |                                 |
|   | <b>-X</b><br>I11<br>143/5TC (ø6.5")  | <b>-Y</b><br>I11<br>182/4TC (ø8.88")   | <b>AA</b><br>I11<br>213/5TC (ø8.88")  |   |   |   |                                 |                                  |                                 |

## On request

|          |   |   |
|----------|---|---|
| <b>A</b> | <b>Protective seals cup</b><br>CLOSE TYPE |  |
| <b>B</b> | <b>Protective seals cup</b><br>OPEN TYPE  |  |
| <b>C</b> | <b>Food lube</b>                          |   |
| <b>D</b> | <b>Nema input flanges</b>                 |   |

**-M**  
without flange  
Senza flangia

**-O**  
Type R  
Tipo R



On request we can deliver our products according to the ATEX  
 A richiesta possiamo fornire i nostri prodotti secondo le normative ATEX  
 Auf Anfrage können wir unsere Produkte den Richtlinien ATEX entsprechend liefern  
 Sur demande nos produits peuvent se conformer à la réglementation ATEX  
 A pedido, se pueden enviar nuestros productos de acuerdo con las normas ATEX.



POTENZA RICHIESTA / REQUIRED POWER / ERFORDERLICHE LEISTUNG / PUISSANCE NECESSAIRE / POTENCIA NECESARIA

Lifting / sollevamento / hubantriebe / levage / elevación

$$P \text{ [KW]} = \frac{M \text{ [Kg]} \cdot g \text{ [9.81]} \cdot v \text{ [m / s]}}{1000}$$

Rotation / rotazione / drehung / rotation / rotacion

$$P \text{ [KW]} = \frac{M \text{ [Nm]} \cdot n \text{ [rpm]}}{9550}$$

Linear movement / traslazione / linearbewegung / translation / translacion

$$P \text{ [KW]} = \frac{F \text{ [N]} \cdot v \text{ [m / s]}}{1000}$$

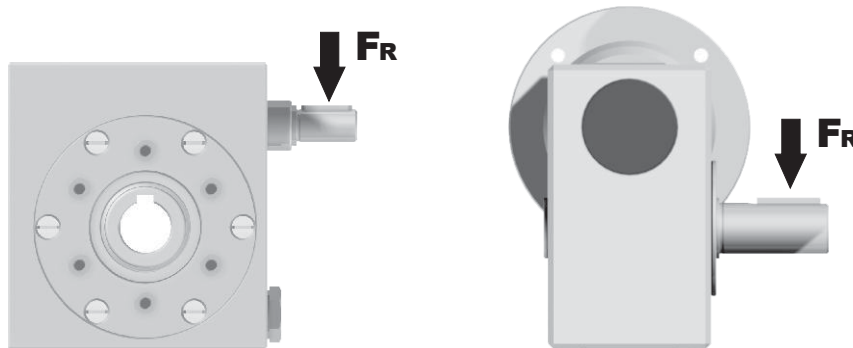
TORQUE / COPPIA / DREHMOMENT / COUPLE / PAR

$$M \text{ [Nm]} = \frac{9550 \cdot P \text{ [KW]}}{n \text{ [rpm]}}$$

$$M \text{ [lb in]} = \frac{63030 \cdot P \text{ [HP]}}{n \text{ [rpm]}}$$

RADIAL LOADS / CARICHI RADIALI / RADIALE - UND AXIALLASTEN / CHARGES RADIALES / CARGA RADIAL Y AXIAL

- Radial load generated by external transmissions keyed onto input and/or output shafts.
- Forza radiale generata da organi di trasmissione calettati sugli alberi di ingresso e/o uscita.
- Belastungen der Antriebs- bzw. Abtriebswellen durch von aussen eingebrachte Radiallasten.
- Charge radiale générée par la transmissions calés sur les entrées et / ou des arbres de sortie
- Cargas radiales, generada por transmisiones externas, aplicadas sobre los ejes de entrada y/o salida



$$F_R \text{ [N]} = \frac{M \text{ [Nm]} \cdot 2000}{d \text{ [mm]}} \cdot f_k$$

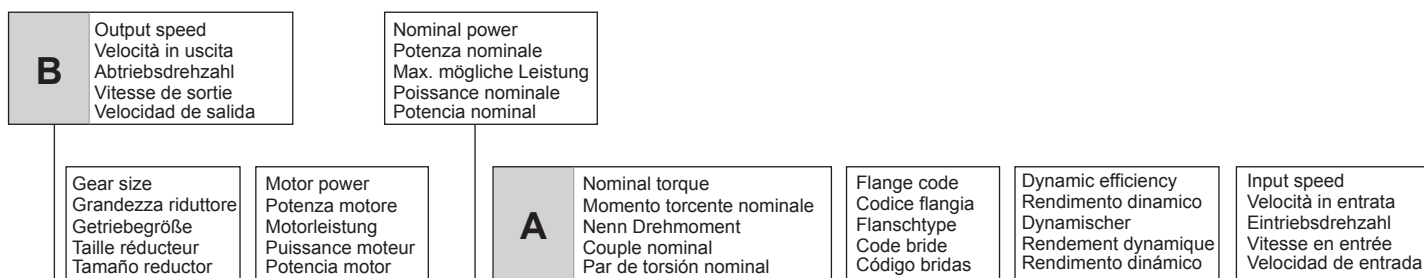
$$F_R \text{ [N]} = \frac{M \text{ [lb in]} \cdot 8.9}{d \text{ [in]}} \cdot f_k$$

|                      |  |
|----------------------|--|
| <b>M</b>             | Momento torcente / Output torque / Abtriebsdrehmoment / Couple / Par torsion   |
| <b>d</b>             | Diametro primitivo / Diam. of driving element / Durchmesser der Abtriebseinheit / Diamètre primitif / Diámetro primitivo   |
| <b>f<sub>k</sub></b> | Coefficiente di trasformazione / Factor / Faktor / Coefficient de transmission / Coeficiente de transmisión<br><b>1.15</b> Ingranaggi / Gearwheels / Zahnrad / Engrenage / Engranaje<br><b>1.25</b> Catena / Chain sprockets / Antriebskette / Chaîne / Cadena<br><b>1.75</b> Cinghia Trapezoidale / Narrow v-belt pulley / Keilriemen / Courroie trap. / Correa trapezoidal<br><b>2.50</b> Cinghia piatta / Flat-belt pulley / Flachzahnriem. / Courroie crantée / Correa plana |

- If your application requires higher radial loads, contact our technical office. Higher load may be possible.
- Nel caso la vostra applicazione richieda carichi radiali superiori consultare il nostro ufficio tecnico, valori maggiori possono essere accettati.
- Wenn Ihre Anwendung höhere Radialbelastungen erfordert, so wenden Sie sich bitte an unser technischen Büro.
- Si votre application demande des charges radiales supérieures, s'adresser à notre bureau technique.
- En el caso en que una aplicación exija una carga radial superior a la especificada en el catálogo, consultar a nuestra oficinas técnica.



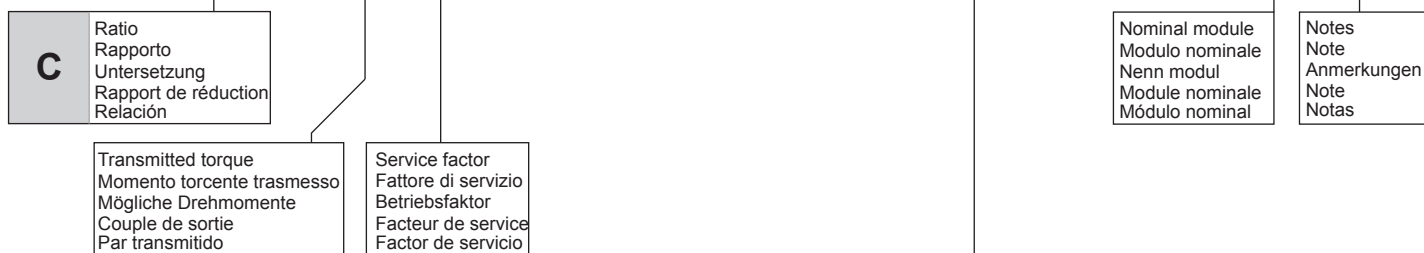
How to select a gearbox / Come selezionare un riduttore / Wie wählt man ein Getriebe  
Comment sélectionner un réducteur / Cómo seleccionar un reductor



**145** Stainlesssteel - Gear **41Nm** Rating - Stainlesssteel WORM GEARBOXES

**QUICK SELECTION / Selezione veloce** input speed (n<sub>1</sub>) = 1400 min<sup>-1</sup>

| Output Speed<br>n <sub>2</sub><br>[min <sup>-1</sup> ] | Ratio<br>i | Motor power<br>P <sub>1M</sub><br>[kW] | Output torque<br>M <sub>2M</sub><br>[Nm] | Service factor<br>f.s. | Nominal power<br>P <sub>1R</sub><br>[kW] | Nominal torque<br>M <sub>2R</sub><br>[Nm] | B5 motor flanges<br>not available |   | Available<br>B14 motor flanges |     | Dynamic efficiency<br>RD | Tooth Module<br>[mm] | Ratios code |
|--|------------|--|--|------------------------|--|---|-----------------------------------|---|--------------------------------|-----|--------------------------|----------------------|-------------|
|  |            |  |  |                        |  |   | -                                 | - | -P                             | -Q  |                          |                      |             |
| 200  | 7          | 0.37                                   | 14                                       | 2.2                    | 0.80                                     | 30  | -                                 | - | 63                             | 71  | 80                       | 2.2                  | 01          |
| 140  | 10         | 0.37                                   | 20                                       | 1.5                    | 0.57                                     | 30  | -                                 | - | B-C                            | B-C | 79                       | 2.2                  | 02          |
| 100  | 14         | 0.37                                   | 27                                       | 1.1                    | 0.41                                     | 30  | -                                 | - | B-C                            | B-C | 77                       | 2.4                  | 03          |



**fs**

| Type of load and starts per hour<br>Tipo di carico e avviamenti per ora                                    |                     | Oper. hours per day<br>Ore di funz. giorn. |         |          |
|--|---------------------|--|---------|----------|
|  |                     | <2 h                                       | 2 - 8 h | 8 - 16 h |
| Continuous or intermittent appl. with start / hour<br>Applicazione cont. o interm. con n.ro operazioni/ora | Uniform / Uniforme  | 0.9  | 1       | 1.25     |
|  | Moderate / Moderato | 1  | 1.25    | 1.5      |
|  | Heavy / Forte       | 1.25                                       | 1.5     | 1.75     |
| Intermittent application with start / hour<br>Applicazione intermittente con n.ro operazioni/ora           | Uniform / Uniforme  | 1.25                                       | 1.5     | 1.75     |
|  | Moderate / Moderato | 1.5  | 1.75    | 2        |
|  | Heavy / Forte       | 1.75                                       | 2       | 2.25     |

**D**

|           |  |  |  |
|-----------|--|--|--|
| <b>B)</b> | Motor flange available<br>Flange disponibili<br>Erhältliche Motorflansche<br>Brides disponibles<br>Bridas disponibles  | Mounting with reduction ring<br>Montaggio con boccolla di riduzione<br>Reduzierhülsen<br>Montage avec douille de réduction<br>Montaje con casquillo de reducción |  |
| <b>C)</b> | Motor flangeholes position/terminal box position<br>Posizione fori flangia/basetta motore<br>Bohrungsposition am Motorflansch/-socket<br>Position trous bride/barrette à bornes moteur<br>Posición agujeros brida / base motor |  |  |
| <b>B)</b> | Available without reduction bushes<br>Disponibile anche senza boccolla<br>Auch ohne Reduzierbuchse verfügbar<br>Disponible aussi sans douille de réduction<br>Disponible también sin casquillo                                 |  |  |

|          |  |  |  |   |  |
|----------|--|--|--|---|--|
| <b>A</b> | Select required torque (according to service factor)                   | Seleziona la coppia desiderata (comprensiva del fattore di servizio)                             | Max. Drehmoment in Bezug zum Betriebsfaktor  | Sélectionner le couple souhaité (comprenant le facteur de service)                                | Seleccionar el par deseado (incluyendo el factor de servicio)                                      |
| <b>B</b> | Select output speed  | Seleziona la velocità in uscita  | Ausgewählte Abtriebsdrehzahl   | Sélectionner la vitesse de sortie   | Seleccionar la velocidad de salida   |
| <b>C</b> | On the same line of selected geared motor, you can find the gear ratio | Sulla riga corrispondente alla motorizzazione prescelta si può rilevare il rapporto di riduzione | Auf der gleichen Linie wie die ausgewählte Motorleistung steht auch die Getriebeuntersetzung | Sur la ligne correspondante à la motorisation pré-choisie on peut relever le rapport de réduction | En la línea correspondiente al motor preseleccionado es posible encontrar la relación de reducción |
| <b>D</b> | Select motor flange available (if requested)                           | Scegli la flangia disponibile (se richiesta)   | Erhältliche Motorflansche (auf Anfrage)  | Choisir la bride disponible (si elle est demandée)  | Seleccionar la brida disponible (sobre pedido)   |



## QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | B5 motor flanges<br>not available |   | Available<br>B14 motor flanges |     | Dynamic efficiency<br><b>RD</b> | Tooth Module<br><br>[mm] | <br>Ratios code |
|---|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|-----------------------------------|---|--------------------------------|-----|---------------------------------|--------------------------|-----------------|
|   |              |                                 |                                   |                        |                                   |                                    | -                                 | - | -O                             | -P  |                                 |                          |                 |
| 280   | <b>5</b>     | 0.18                            | 5                                 | 3.3                    | <b>0.60</b>                       | 17                                 | -                                 | - | 56                             | 63  | 82                              | 1.26                     | 01              |
| 200   | <b>7</b>     | 0.18                            | 7                                 | 2.4                    | <b>0.44</b>                       | 17                                 | -                                 | - | B-C                            | B-C | 80                              | 1.44                     | 02              |
| 140   | <b>10</b>    | 0.18                            | 10                                | 1.8                    | <b>0.32</b>                       | 17                                 | -                                 | - | B-C                            | B-C | 78                              | 1.44                     | 03              |
| 93  | <b>15</b>    | 0.18                            | 13                                | 1.4                    | <b>0.25</b>                       | 19                                 | -                                 | - | B-C                            | B-C | 73                              | 1.44                     | 04              |
| 70  | <b>20</b>    | 0.18                            | 17                                | 1.1                    | <b>0.20</b>                       | 19                                 | -                                 | - | B-C                            | B-C | 70                              | 1.09                     | 05              |
| 47  | <b>30</b>    | 0.12                            | 15                                | 1.4                    | <b>0.17</b>                       | 21                                 | -                                 | - | B-C                            | B-C | 62                              | 1.44                     | 06              |
| 35  | <b>40</b>    | 0.12                            | 19                                | 1.1                    | <b>0.13</b>                       | 20                                 | -                                 | - | B-C                            | B-C | 57                              | 1.09                     | 07              |
| 23  | <b>61</b>    | 0.09                            | 19                                | 1.1                    | <b>0.10</b>                       | 20                                 | -                                 | - | B-C                            | B-C | 50                              | 0.72                     | 08              |
| 17.5  | <b>80</b>    | 0.09                            | 16                                | 1.0                    | <b>0.06</b>                       | 16                                 | -                                 | - | B-C                            | B-C | 48                              | 0.56                     | 09              |

\* The nominal power should be reduced if the ambient temperature is  $\geq 30^\circ\text{C}$ , or when a cooler gearbox is required.

\* Diminuire la potenza nominale in caso di temperatura ambiente  $\geq 30^\circ\text{C}$  o se è richiesta una bassa temperatura di utilizzo del riduttore.

**Motor Flanges Available**  
Flange Motore Disponibili

**B) Supplied with Reduction Bushing**  
Fornito con Bussola di Riduzione

**B) Available on Request without reduction bushing**  
Disponibile a Richiesta senza Bussola di Riduzione

**C) Motor Flange Holes Position**  
Posizione Fori Flangia Motore

**EN** Unit **I30** is supplied with synthetic oil, providing "long life" lubrication.  
See table 1 for lubrication and recommended quantity.  
In table 2 please see possible radial loads and axial loads on the gearbox.

**I** Il riduttore tipo **I30** viene fornito lubrificato a vita con olio sintetico.  
Vedi tab.1 per oli e quantità consigliati.  
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

**D** Für die Lebensdauerschmierung ist das Getriebe der Größe **I30** mit synthetischem Öl befüllt.  
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.  
In Tabelle 2 sind die zulässigen Radial - und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type **I30** est fourni lubrifié à vie avec de l'huile synthétique.  
Voir tableau 1 concernant les huiles et les quantités conseillées.  
Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

**E** El reductor tamaño **I30** se suministra, lubricado de por vida con aceite sintético.  
Ver tabla 1, para cantidades y aceites recomendados.  
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

## LUBRICATION I30 Oil Quantity 0.06 Lt.

**AGIP** Telium VSF 320

**SHELL** Omala S4 WE 320

For all details on lubrication and plugs check our website

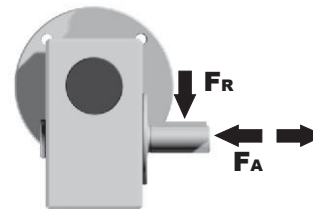
tab. 1

Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

## RADIAL AND AXIAL LOADS

### Output shaft

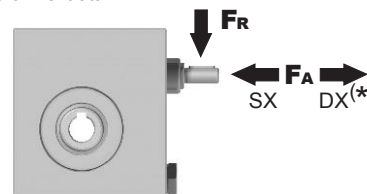
Albero di uscita



| $n_2$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 200                           | 120       | 600       |
| 150                           | 140       | 700       |
| 100                           | 160       | 800       |
| 75                            | 180       | 900       |
| 50                            | 200       | 1000      |
| 25                            | 250       | 1250      |
| 15                            | 280       | 1400      |

### Input shaft

albero in entrata



| $n_1$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 1400                          | 20        | 100       |

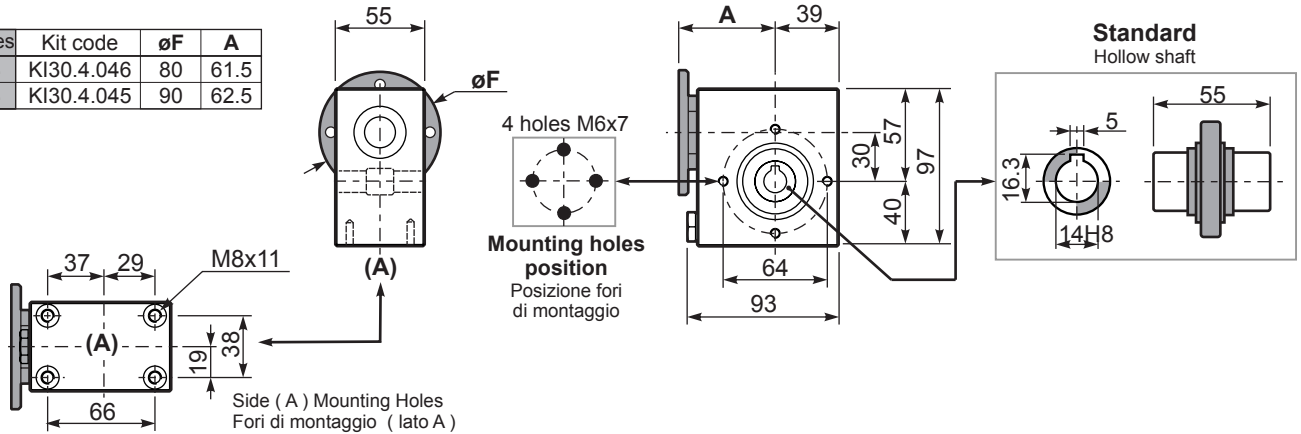
\*Strong axial loads in the DX direction are not allowed.  
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

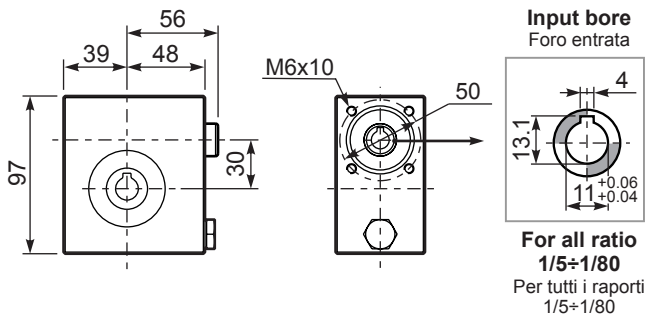
Gearbox weight peso riduttore **2.5 kg**

PI30UN... Basic wormbox  
Riduttore base

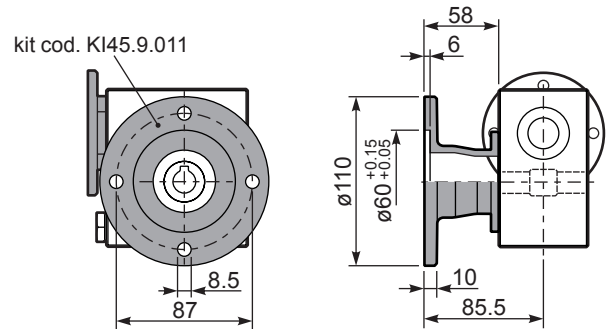
| M. flanges | Kit code   | øF | A    |
|------------|------------|----|------|
| 56B14      | KI30.4.046 | 80 | 61.5 |
| 63B14      | KI30.4.045 | 90 | 62.5 |



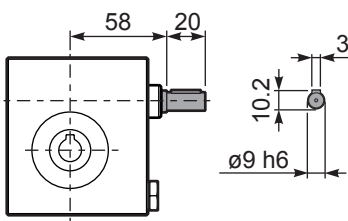
B130UN... Modular base  
Base modulare



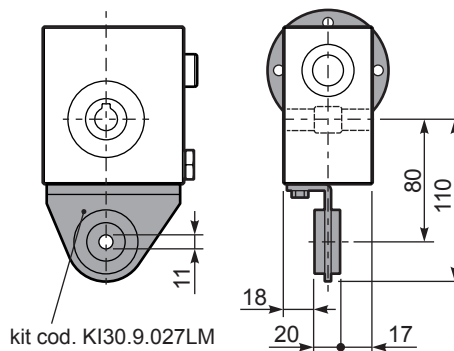
PI30FL... Output flange  
Flangia uscita



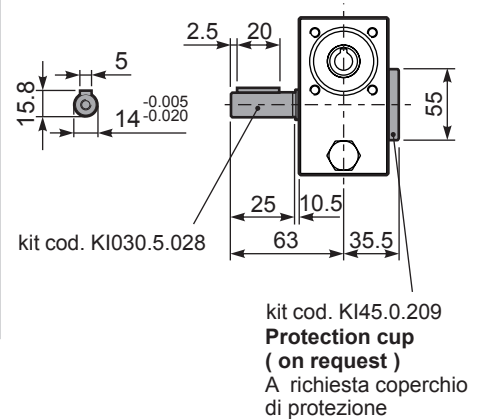
R130UN... Input shaft  
Albero in entrata



PI30BR... Reaction arm  
Braccio di reazione



PI30.....S... Single Shaft  
Albero lento semplice





## QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | B5 motor flanges<br>not available |   | Available<br>B14 motor flanges |    | Dynamic efficiency<br><br>RD | Tooth Module<br><br>[mm] | Ratios code<br> |
|---|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|-----------------------------------|---|--------------------------------|----|------------------------------|--------------------------|-----------------|
|   |              |                                 |                                   |                        |                                   |                                    | -                                 | - | -P                             | -Q |                              |                          |                 |
| 200   | 7            | 0.37                            | 14                                | 2.2                    | 0.80                              | 30                                 | -                                 | - | B-C                            |    | 80                           | 2.2                      | 01              |
| 140   | 10           | 0.37                            | 20                                | 1.5                    | 0.57                              | 30                                 | -                                 | - | B-C                            |    | 79                           | 2.2                      | 02              |
| 100   | 14           | 0.37                            | 27                                | 1.1                    | 0.41                              | 30                                 | -                                 | - | B-C                            |    | 77                           | 2.4                      | 03              |
| 67  | 21           | 0.37                            | 36                                | 1.2                    | 0.43                              | 41                                 | -                                 | - | B-C                            |    | 67                           | 1.6                      | 04              |
| 50  | 28           | 0.25                            | 31                                | 1.3                    | 0.33                              | 41                                 | -                                 | - | B-C                            |    | 65                           | 2.5                      | 05              |
| 38  | 37           | 0.25                            | 40                                | 1.0                    | 0.26                              | 41                                 | -                                 | - | B-C                            |    | 63                           | 1.8                      | 06              |
| 30  | 46           | 0.25                            | 46                                | 0.9                    | 0.22                              | 41                                 | -                                 | - | B-C                            |    | 59                           | 1.5                      | 07              |
| 23  | 60           | 0.18                            | 41                                | 1.0                    | 0.18                              | 41                                 | -                                 | - | B-C                            |    | 56                           | 1.2                      | 08              |
| 20  | 70           | 0.12                            | 31                                | 1.0                    | 0.12                              | 30                                 | -                                 | - | B-C                            |    | 54                           | 1.0                      | 09              |
| 13.7  | 102          | 0.12                            | 41                                | 0.7                    | 0.09                              | 29                                 | -                                 | - | B-C                            |    | 49                           | 0.72                     | 10              |

\* The nominal power should be reduced if the ambient temperature is  $\geq 30^\circ\text{C}$ , or when a cooler gearbox is required.

\* Diminuire la potenza nominale in caso di temperatura ambiente  $\geq 30^\circ\text{C}$  o se è richiesta una bassa temperatura di utilizzo del riduttore.

Motor Flanges Available Flange Motore Disponibili  
 B) Supplied with Reduction Bushing Fornito con Bussola di Riduzione  
 B) Available on Request without reduction bushing Disponibile a Richiesta senza Bussola di Riduzione  
 C) Motor Flange Holes Position Posizione Fori Flangia Motore

**EN** Unit I45 is supplied with synthetic oil, providing "long life" lubrication..  
See table 1 for lubrication and recommended quantity.  
In table 2 please see possible radial loads and axial loads on the gearbox.

**I** Il riduttore tipo I45 viene fornito lubrificato a vita con olio sintetico.  
Vedi tab.1 per oli e quantità consigliati.  
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

**D** Für die Lebensdauerschmierung ist das Getriebe der Größe I45 mit synthetischem Öl befüllt.  
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.  
In Tabelle 2 sind die zulässigen Radial- und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type I45 est fourni lubrifié à vie avec de l'huile synthétique.  
Voir tableau 1 concernant les huiles et les quantités conseillées.  
Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

**E** El reductor tamaño I45 se suministra, lubricado de por vida con aceite sintético.  
Ver tabla 1, para cantidades y aceites recomendados.  
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

| Standard            | On request |         |                       |         |         |
|---------------------|------------|---------|-----------------------|---------|---------|
|                     |            |         |                       |         |         |
| 0.15 LT             | 0.15 LT    | 0.20 LT | 0.15 LT               | 0.15 LT | 0.15 LT |
| AGIP Telium VSF 320 |            |         | SHELL Omala S4 WE 320 |         |         |

For all details on lubrication and plugs check our website **tab. 1**  
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

## RADIAL AND AXIAL LOADS

**Output shaft**  
Albero di uscita

| $n_2$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 200                           | 180       | 900       |
| 150                           | 200       | 1000      |
| 100                           | 220       | 1100      |
| 75                            | 240       | 1200      |
| 50                            | 260       | 1400      |
| 25                            | 300       | 1800      |
| 15                            | 400       | 2000      |

**Input shaft**  
albero in entrata

| $n_1$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 1400                          | 42        | 210       |

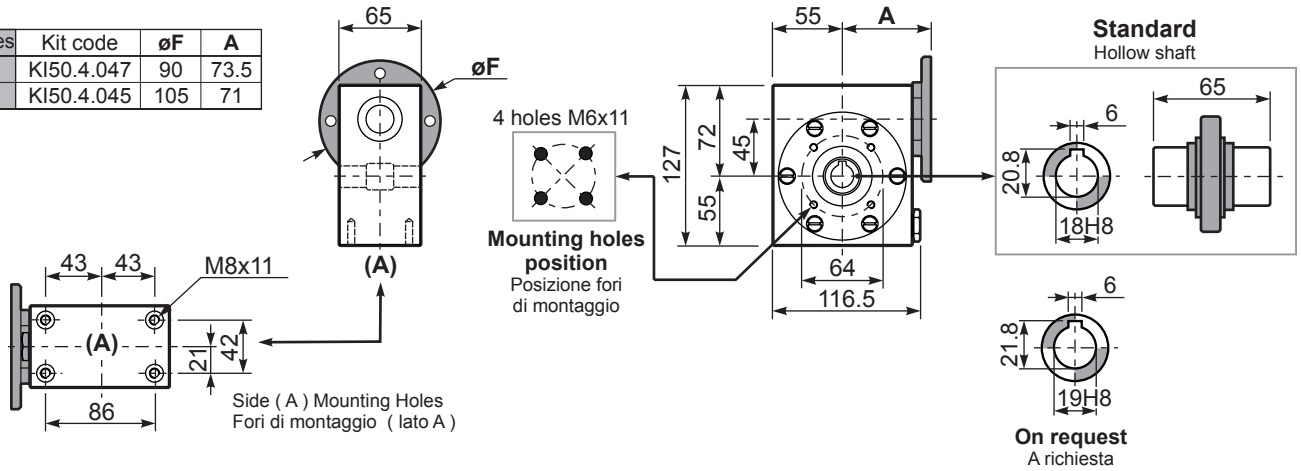
**\*Strong axial loads in the DX direction are not allowed.**  
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

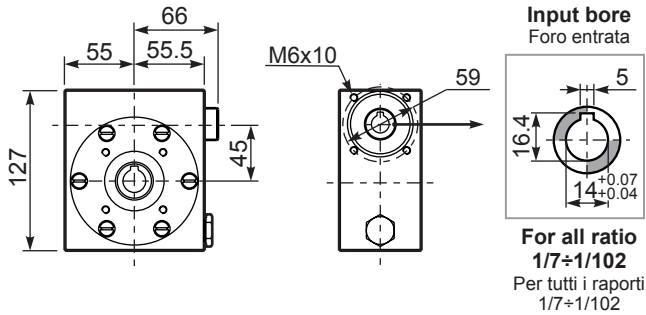
Gearbox weight  
peso riduttore **5.0 kg**

PI45**UN**... Basic wormbox  
Riduttore base

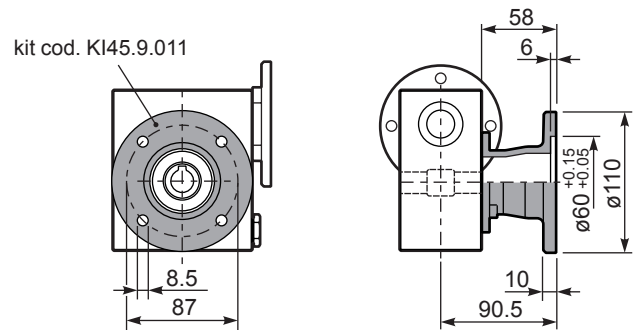
| M. flanges | Kit code   | øF  | A    |
|------------|------------|-----|------|
| 63B14      | KI50.4.047 | 90  | 73.5 |
| 71B14      | KI50.4.045 | 105 | 71   |



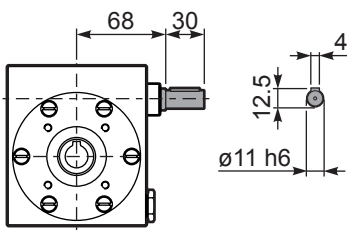
BI45UN... Modular base  
Base modulare



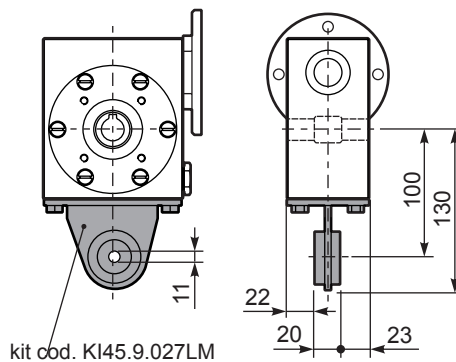
PI45FL... Output flange  
Flangia uscita



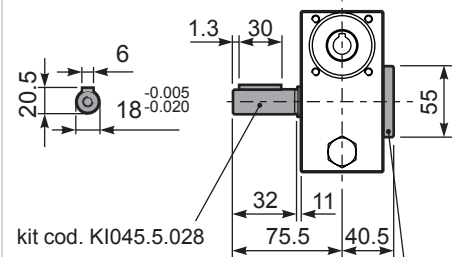
RI45UN... Input shaft  
Albero in entrata



PI45BR... Reaction arm  
Braccio di reazione



PI45....S... Single Shaft  
Albero lento semplice



kit cod. KI45.0.209  
**Protection cup  
( on request )**  
A richiesta coperchio  
di protezione



## QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | B5 motor flanges<br>not available |   | Available<br>B14 motor flanges |          |    | Dynamic efficiency<br><b>RD</b> | Tooth Module<br><br>[mm] | Ratios code<br> |
|---|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|-----------------------------------|---|--------------------------------|----------|----|---------------------------------|--------------------------|-----------------|
|   |              |                                 |                                   |                        |                                   |                                    | -                                 | - | -P                             | -Q       | -R |                                 |                          |                 |
| 200   | <b>7</b>     | 0.75                            | 29                                | 1.9                    | <b>1.5</b>                        | <b>57</b>                          |                                   |   | B-C                            | <b>B</b> |    | 82                              | 2.5                      | 01              |
| 140   | <b>10</b>    | 0.75                            | 41                                | 1.5                    | <b>1.1</b>                        | <b>62</b>                          |                                   |   | B-C                            | <b>B</b> |    | 80                              | 2.4                      | 02              |
| 100   | <b>14</b>    | 0.75                            | 57                                | 1.2                    | <b>0.90</b>                       | <b>68</b>                          |                                   |   | B-C                            | <b>B</b> |    | 79                              | 2.6                      | 03              |
| 78  | <b>18</b>    | 0.55                            | 51                                | 1.2                    | <b>0.67</b>                       | <b>62</b>                          |                                   |   | B-C                            | <b>B</b> |    | 75                              | 2.0                      | 04              |
| 54  | <b>26</b>    | 0.55                            | 67                                | 1.0                    | <b>0.54</b>                       | <b>66</b>                          |                                   |   | B-C                            | <b>B</b> |    | 69                              | 2.7                      | 05              |
| 47  | <b>30</b>    | 0.55                            | 79                                | 0.9                    | <b>0.50</b>                       | <b>72</b>                          |                                   |   | B-C                            | <b>B</b> |    | 70                              | 2.5                      | 12              |
| 39  | <b>36</b>    | 0.37                            | 63                                | 1.2                    | <b>0.43</b>                       | <b>72</b>                          |                                   |   | B-C                            | <b>B</b> |    | 69                              | 2.1                      | 06              |
| 33  | <b>43</b>    | 0.37                            | 72                                | 1.0                    | <b>0.35</b>                       | <b>68</b>                          |                                   |   | B-C                            | <b>B</b> |    | 66                              | 1.8                      | 07              |
| 23  | <b>60</b>    | 0.25                            | 59                                | 1.0                    | <b>0.26</b>                       | <b>62</b>                          |                                   |   | B-C                            | <b>B</b> |    | 58                              | 1.3                      | 08              |
| 21  | <b>68</b>    | 0.25                            | 66                                | 0.9                    | <b>0.22</b>                       | <b>58</b>                          |                                   |   | B-C                            | <b>B</b> |    | 57                              | 1.2                      | 09              |
| 17.5  | <b>80</b>    | 0.18                            | 53                                | 1.1                    | <b>0.19</b>                       | <b>57</b>                          |                                   |   | B-C                            | <b>B</b> |    | 54                              | 1.0                      | 10              |
| 14  | <b>100</b>   | 0.12                            | 41                                | 1.3                    | <b>0.15</b>                       | <b>51</b>                          |                                   |   | B-C                            | <b>B</b> |    | 50                              | 0.8                      | 11              |

\* The nominal power should be reduced if the ambient temperature is  $\geq 30^\circ\text{C}$ , or when a cooler gearbox is required.

\* Diminuire la potenza nominale in caso di temperatura ambiente  $\geq 30^\circ\text{C}$  o se è richiesta una bassa temperatura di utilizzo del riduttore.

**Motor Flanges Available**  
Flange Motore Disponibili

**B) Supplied with Reduction Bushing**  
Fornito con Bussola di Riduzione

**B) Available on Request without reduction bushing**  
Disponibile a Richiesta senza Bussola di Riduzione

**C) Motor Flange Holes Position**  
Posizione Fori Flangia Motore

**EN** Unit **150** is supplied with synthetic oil, providing "long life" lubrication.  
See table 1 for lubrication and recommended quantity.  
In table 2 please see possible radial loads and axial loads on the gearbox.

**I** Il riduttore tipo **150** viene fornito lubrificato a vita con olio sintetico.  
Vedi tab.1 per oli e quantità consigliati.  
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

**D** Für die Lebensdauerschmierung ist das Getriebe der Größe **150** mit synthetischem Öl befüllt.  
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.  
In Tabelle 2 sind die zulässigen Radial- und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type **150** est fourni lubrifié à vie avec de l'huile synthétique.  
Voir tableau 1 concernant les huiles et les quantités conseillées.  
Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

**E** El reductor tamaño **150** se suministra, lubricado de por vida con aceite sintético.  
Ver tabla 1, para cantidades y aceites recomendados.  
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

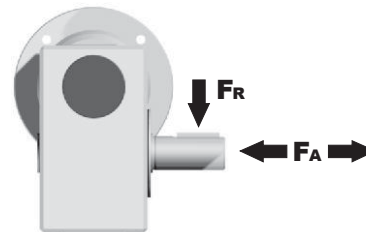
| Standard            | On request |         |                       |         |         |
|---------------------|------------|---------|-----------------------|---------|---------|
|                     |            |         |                       |         |         |
| 0.22 LT             | 0.22 LT    | 0.28 LT | 0.22 LT               | 0.22 LT | 0.22 LT |
| AGIP Telium VSF 320 |            |         | SHELL Omala S4 WE 320 |         |         |

For all details on lubrication and plugs check our website **tab. 1**  
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

## RADIAL AND AXIAL LOADS

### Output shaft

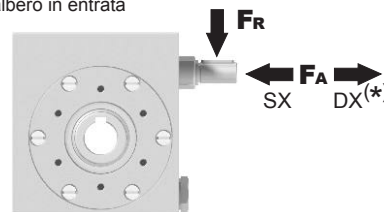
Albero di uscita



| $n_2$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| <b>200</b>                    | 240       | 1200      |
| <b>150</b>                    | 280       | 1400      |
| <b>100</b>                    | 300       | 1500      |
| <b>75</b>                     | 340       | 1700      |
| <b>50</b>                     | 380       | 1900      |
| <b>25</b>                     | 480       | 2500      |
| <b>15</b>                     | 560       | 2800      |

### Input shaft

albero in entrata



| $n_1$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| <b>1400</b>                   | 76        | 380       |

\*Strong axial loads in the DX direction are not allowed.  
Non sono consentiti forti carichi assiali con direzione DX

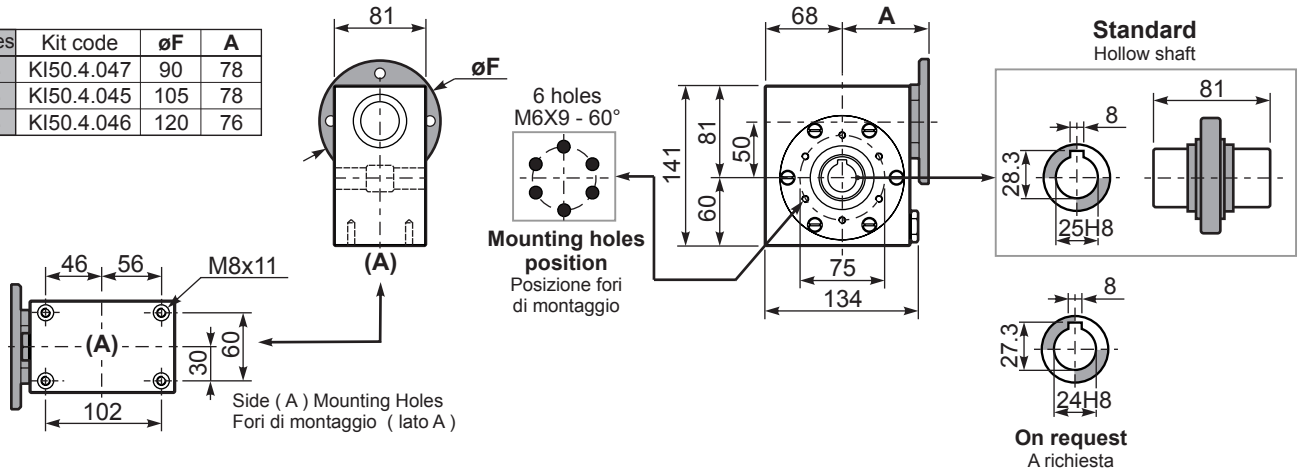
tab. 2



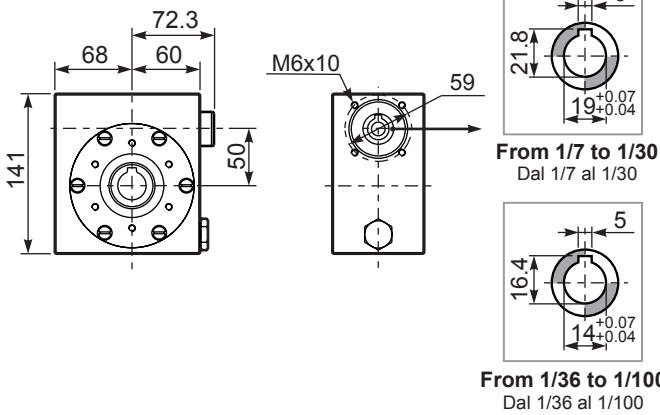
Gearbox weight **7.3 kg**  
peso riduttore

**PI50UN...** Basic wormbox  
Riduttore base

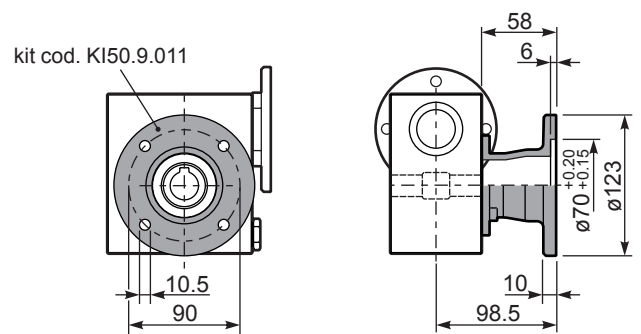
| M. flanges   | Kit code   | øF  | A  |
|--------------|------------|-----|----|
| <b>63B14</b> | KI50.4.047 | 90  | 78 |
| <b>71B14</b> | KI50.4.045 | 105 | 78 |
| <b>80B14</b> | KI50.4.046 | 120 | 76 |



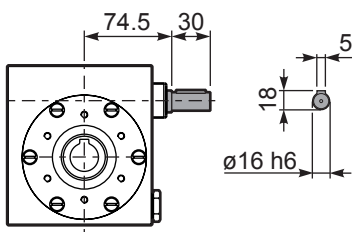
**BI50UN...** Modular base  
Base modulare



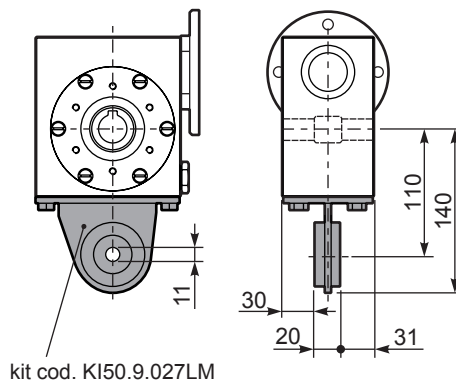
**PI50FL...** Output flange  
Flangia uscita



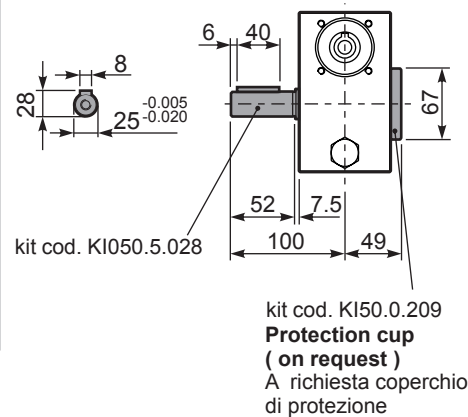
**RI50UN...** Input shaft  
Albero in entrata



**PI50BR...** Reaction arm  
Braccio di reazione



**PI50.....S...** Single Shaft  
Albero lento semplice





## QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | B5 motor flanges<br>not available |   | Available<br>B14 motor flanges |     |    | Dynamic efficiency<br>RD | Tooth Module<br>[mm] | Ratios code |
|---|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|-----------------------------------|---|--------------------------------|-----|----|--------------------------|----------------------|-------------|
|   |              |                                 |                                   |                        |                                   |                                    | -                                 | - | -Q                             | -R  | -T |                          |                      |             |
| 200   | 7            | 1.8                             | 71                                | 1.8                    | 3.2                               | 125                                |                                   |   | B-C                            | B-C |    | 83                       | 3.1                  | 01          |
| 140   | 10           | 1.8                             | 99                                | 1.4                    | 2.4                               | 134                                |                                   |   | B-C                            | B-C |    | 81                       | 3.1                  | 02          |
| 93  | 15           | 1.5                             | 121                               | 1.1                    | 1.7                               | 138                                |                                   |   | B-C                            | B-C |    | 79                       | 3.1                  | 03          |
| 74  | 19           | 1.1                             | 111                               | 1.2                    | 1.4                               | 138                                |                                   |   | B-C                            | B-C |    | 78                       | 2.6                  | 04          |
| 58  | 24           | 1.1                             | 135                               | 1.0                    | 1.2                               | 142                                |                                   |   | B-C                            | B-C |    | 75                       | 2.0                  | 05          |
| 47  | 30           | 1.1                             | 167                               | 0.9                    | 0.96                              | 146                                |                                   |   | B-C                            | B-C |    | 74                       | 3.2                  | 06          |
| 39  | 36           | 0.75                            | 125                               | 1.2                    | 0.88                              | 147                                |                                   |   | B-C                            | B-C |    | 68                       | 2.7                  | 07          |
| 31  | 45           | 0.55                            | 111                               | 1.2                    | 0.67                              | 135                                |                                   |   | B-C                            | C   |    | 66                       | 2.1                  | 08          |
| 23  | 60           | 0.55                            | 140                               | 0.9                    | 0.51                              | 130                                |                                   |   | B-C                            | C   |    | 62                       | 1.6                  | 12          |
| 21  | 67           | 0.55                            | 151                               | 0.8                    | 0.45                              | 124                                |                                   |   | B-C                            | C   |    | 60                       | 1.5                  | 09          |
| 17.5  | 80           | 0.37                            | 115                               | 1.0                    | 0.38                              | 119                                |                                   |   | B-C                            | C   |    | 57                       | 1.3                  | 10          |
| 14.9  | 94           | 0.37                            | 123                               | 1.0                    | 0.36                              | 119                                |                                   |   | B-C                            | C   |    | 52                       | 1.1                  | 11          |

\* The nominal power should be reduced if the ambient temperature is  $\geq 30^\circ\text{C}$ , or when a cooler gearbox is required.

\* Diminuire la potenza nominale in caso di temperatura ambiente  $\geq 30^\circ\text{C}$  o se è richiesta una bassa temperatura di utilizzo del riduttore.

Motor Flanges Available  
Flange Motore Disponibili

B) Supplied with Reduction Bushing  
Fornito con Bussola di Riduzione

B) Available on Request without reduction bushing  
Disponibile a Richiesta senza Bussola di Riduzione

C) Motor Flange Holes Position  
Posizione Fori Flangia Motore

**EN** Unit I63 is supplied with synthetic oil, providing "long life" lubrication. See table 1 for lubrication and recommended quantity. In table 2 please see possible radial loads and axial loads on the gearbox.

**I** Il riduttore tipo I63 viene fornito lubrificato a vita con olio sintetico. Vedi tab.1 per oli e quantità consigliati. In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

**D** Für die Lebensdauerschmierung ist das Getriebe der Größe I63 mit synthetischem Öl befüllt. In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben. In Tabelle 2 sind die zulässigen Radial- und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type I63 est fourni lubrifié à vie avec de l'huile synthétique. Voir tableau 1 concernant les huiles et les quantités conseillées. Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

**E** El reductor tamaño I63 se suministra, lubricado de por vida con aceite sintético. Ver tabla 1, para cantidades y aceites recomendados. En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

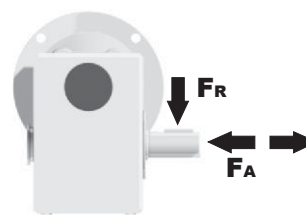
| Standard            | On request |         |                       |         |         |
|---------------------|------------|---------|-----------------------|---------|---------|
|                     |            |         |                       |         |         |
| B3                  | B6         | B7      | B8                    | V5      | V6      |
| 0.60 LT             | 0.60 LT    | 0.82 LT | 0.60 LT               | 0.60 LT | 0.60 LT |
| AGIP Telium VSF 320 |            |         | SHELL Omala S4 WE 320 |         |         |

For all details on lubrication and plugs check our website **tab. 1**  
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

## RADIAL AND AXIAL LOADS

### Output shaft

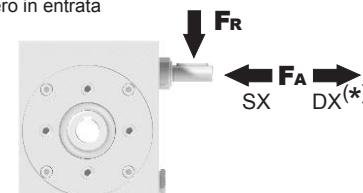
Albero di uscita



| $n_2$ | FA  | FR   |
|-------|-----|------|
| 200   | 360 | 1800 |
| 150   | 400 | 2000 |
| 100   | 460 | 2300 |
| 75    | 500 | 2500 |
| 50    | 600 | 3000 |
| 25    | 700 | 3800 |
| 15    | 800 | 4000 |

### Input shaft

albero in entrata



| $n_1$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 1400                          | 90        | 450       |

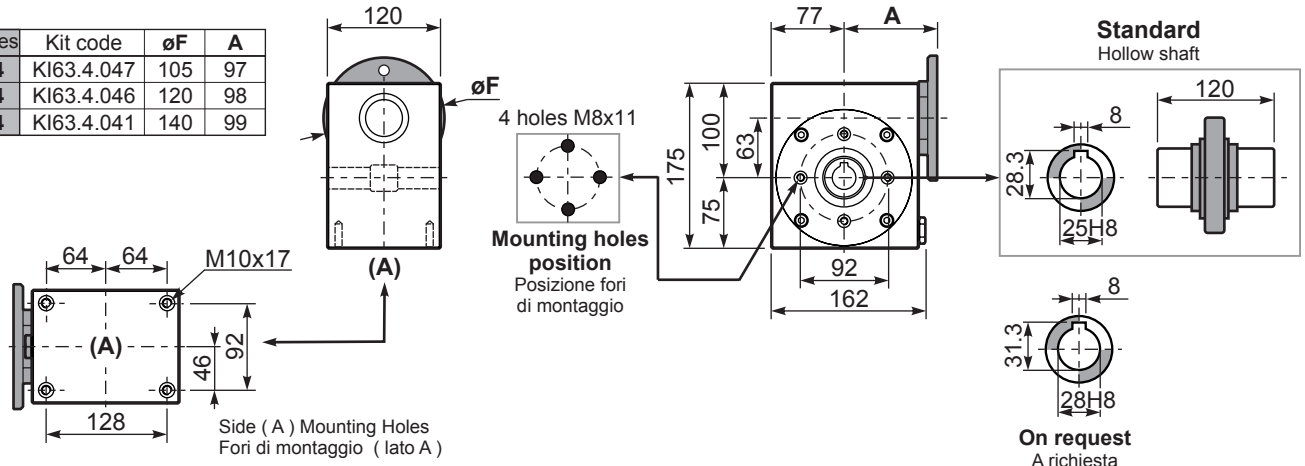
\*Strong axial loads in the DX direction are not allowed.  
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

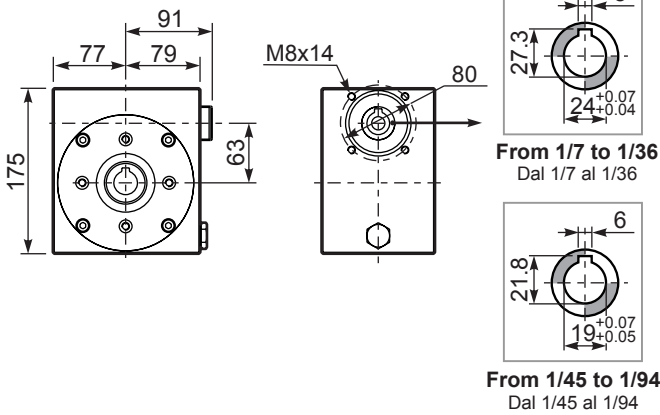
Gearbox weight  
peso riduttore **14.6 kg**

PI63UN... Basic wormbox  
Riduttore base

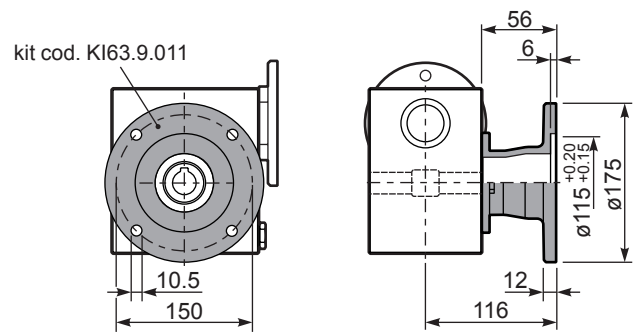
| M. flanges | Kit code   | øF  | A  |
|------------|------------|-----|----|
| 71B14      | KI63.4.047 | 105 | 97 |
| 80B14      | KI63.4.046 | 120 | 98 |
| 90B14      | KI63.4.041 | 140 | 99 |



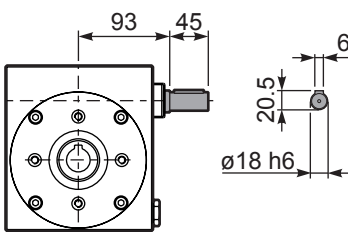
BI63UN... Modular base  
Base modulare



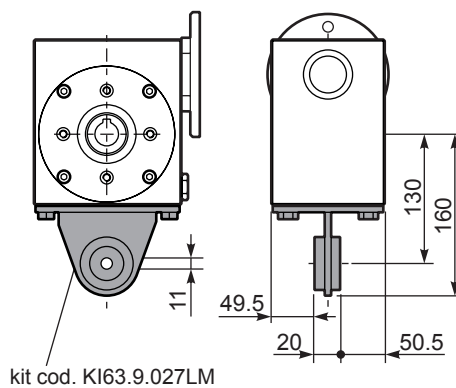
PI63FL... Output flange  
Flangia uscita



RI63UN... Input shaft  
Albero in entrata

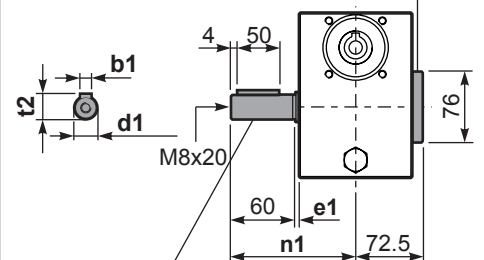


PI63BR... Reaction arm  
Braccio di reazione



PI63...S... Single Shaft  
Albero lento semplice

kit cod. KI63.0.209  
**Protection cup ( on request )**  
A richiesta coperchio di protezione



kit cod. KI063.5.028  
kit cod. KI070.5.028 On request

|            | b1 | e1  | d1                          | n1    | t2 |
|------------|----|-----|-----------------------------|-------|----|
| Standard   | 8  | 3.2 | 25 <sup>-0.005/-0.020</sup> | 121.9 | 28 |
| On request | 8  | 3.5 | 28 <sup>-0.005/-0.020</sup> | 122.2 | 31 |



#### QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | Available B5 motor flanges |    | Available B14 motor flanges | Dynamic efficiency | Tooth Module<br>[mm] | Ratios code |
|---|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|----------------------------|----|-----------------------------|--------------------|----------------------|-------------|
|   |              |                                 |                                   |                        |                                   |                                    | -D                         | -E | -U                          |                    |                      |             |
| 200   | 7            | 4.0                             | 168                               | 1.5                    | 6.1                               | 257                                | B                          | B  |                             | RD                 | 4.23                 | 01          |
| 140   | 10           | 4.0                             | 218                               | 1.3                    | 5.2                               | 284                                | B                          | B  |                             | 80                 | 4.2                  | 02          |
| 100   | 14           | 3.0                             | 223                               | 1.4                    | 4.1                               | 305                                | B                          | B  |                             | 78                 | 4.5                  | 03          |
| 70  | 20           | 2.2                             | 237                               | 1.2                    | 2.7                               | 294                                | B                          | B  |                             | 79                 | 3.4                  | 04          |
| 64  | 22           | 2.2                             | 258                               | 1.1                    | 2.5                               | 294                                | B                          | B  |                             | 78                 | 3.1                  | 05          |
| 50  | 28           | 2.2                             | 315                               | 1.1                    | 2.4                               | 347                                | B                          | B  |                             | 75                 | 4.7                  | 06          |
| 37  | 38           | 1.5                             | 276                               | 1.2                    | 1.8                               | 336                                | B                          | B  |                             | 71                 | 3.5                  | 07          |
| 30  | 46           | 1.5                             | 320                               | 1.0                    | 1.5                               | 326                                | B                          | B  |                             | 68                 | 3.1                  | 08          |
| 27  | 52           | 1.1                             | 258                               | 1.1                    | 1.2                               | 289                                | B                          | B  |                             | 66                 | 2.7                  | 09          |
| 21  | 67           | 1.1                             | 327                               | 0.9                    | 0.97                              | 289                                | B                          | B  |                             | 65                 | 2.1                  | 10          |
| 18.9  | 74           | 0.75                            | 220                               | 1.2                    | 0.91                              | 268                                | B                          | B  |                             | 58                 | 1.9                  | 11          |
| 14.6  | 96           | 0.55                            | 191                               | 1.3                    | 0.70                              | 242                                | B                          | B  |                             | 53                 | 1.5                  | 12          |

\* The nominal power should be reduced if the ambient temperature is  $\geq 30^\circ\text{C}$ , or when a cooler gearbox is required.

\* Diminuire la potenza nominale in caso di temperatura ambiente  $\geq 30^\circ\text{C}$  o se è richiesta una bassa temperatura di utilizzo del riduttore.

**Motor Flanges Available**  
Flange Motore Disponibili

**B) Supplied with Reduction Bushing**  
Fornito con Bussola di Riduzione

**B) Available on Request without reduction bushing**  
Disponibile a Richiesta senza Bussola di Riduzione

**C) Motor Flange Holes Position**  
Posizione Fori Flangia Motore

**EN** Unit **185** is supplied with synthetic oil, providing "long life" lubrication.  
See table 1 for lubrication and recommended quantity.  
In table 2 please see possible radial loads and axial loads on the gearbox.

**I** Il riduttore tipo **185** viene fornito lubrificato a vita con olio sintetico.  
Vedi tab.1 per oli e quantità consigliati.  
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

**D** Für die Lebensdauerschmierung ist das Getriebe der Größe **185** mit synthetischem Öl befüllt.  
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.  
In Tabelle 2 sind die zulässigen Radial- und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type **185** est fourni lubrifié à vie avec de l'huile synthétique.  
Voir tableau 1 concernant les huiles et les quantités conseillées.  
Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

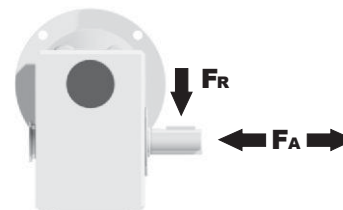
**E** El reductor tamaño **185** se suministra, lubricado de por vida con aceite sintético.  
Ver tabla 1, para cantidades y aceites recomendados.  
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

| Standard            | On request |        |                       |         |         |
|---------------------|------------|--------|-----------------------|---------|---------|
|                     |            |        |                       |         |         |
| 1.40 LT             | 1.40 LT    | 1.70LT | 1.40 LT               | 1.40 LT | 1.40 LT |
| AGIP Telium VSF 320 |            |        | SHELL Omala S4 WE 320 |         |         |

For all details on lubrication and plugs check our website [tab. 1](#)  
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

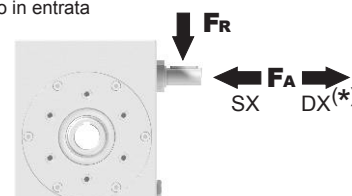
#### RADIAL AND AXIAL LOADS

**Output shaft**  
Albero di uscita



| $n_2$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 200                           | 500       | 2500      |
| 150                           | 580       | 2900      |
| 100                           | 600       | 3000      |
| 75                            | 700       | 3500      |
| 50                            | 800       | 4000      |
| 25                            | 1000      | 5000      |
| 15                            | 1160      | 5800      |

**Input shaft**  
albero in entrata



| $n_1$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 1400                          | 160       | 809       |

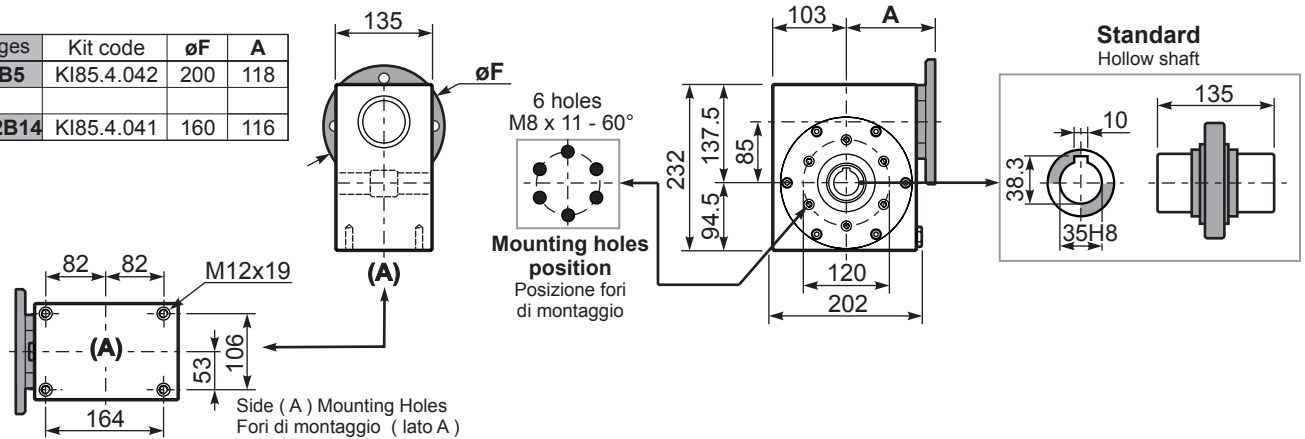
\*Strong axial loads in the DX direction are not allowed.  
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

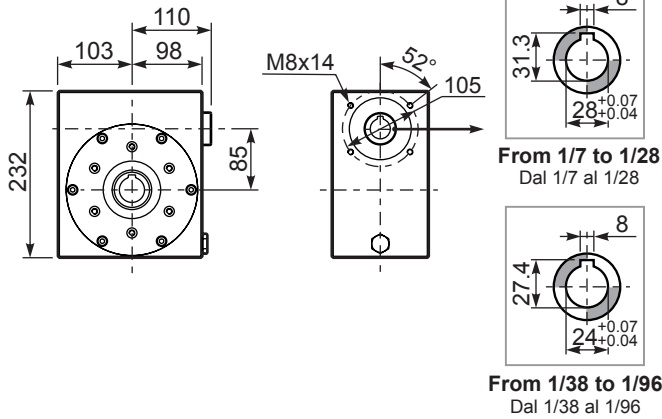
Gearbox weight  
peso riduttore **23.3 kg**

PI85UN... Basic wormbox  
Riduttore base

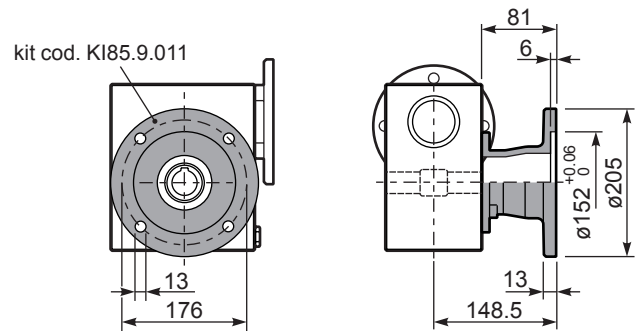
| M. flanges | Kit code   | øF  | A   |
|------------|------------|-----|-----|
| 80-90B5    | KI85.4.042 | 200 | 118 |
| 100-112B14 | KI85.4.041 | 160 | 116 |



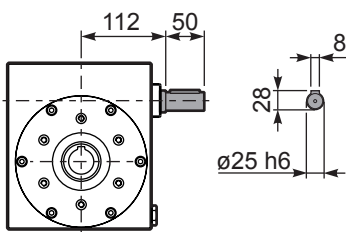
BI85UN... Modular base  
Base modulare



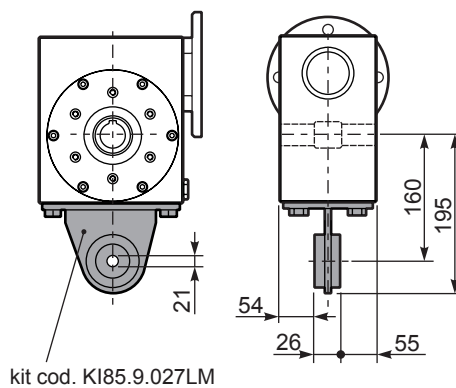
PI85FL... Output flange  
Flangia uscita



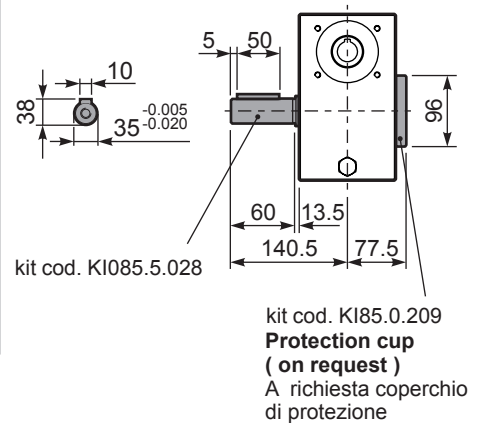
RI85UN... Input shaft  
Albero in entrata



PI85BR... Reaction arm  
Braccio di reazione



PI85.....S... Single Shaft  
Albero lento semplice





#### QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | Available B5 motor flanges |    | Available B14 motor flanges | Dynamic efficiency<br><b>RD</b> | Tooth Module<br>[mm] | Ratios code |
|---|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|----------------------------|----|-----------------------------|---------------------------------|----------------------|-------------|
|   |              |                                 |                                   |                        |                                   |                                    | -D                         | -E | -U                          |                                 |                      |             |
| 200   | <b>7</b>     | 4.0                             | 168                               | 2.9                    | <b>11.5</b>                       | <b>483</b>                         | B                          | B  |                             | 88                              | 5.5                  | 01          |
| 140   | <b>10</b>    | 4.0                             | 235                               | 2.2                    | <b>9.0</b>                        | <b>525</b>                         | B                          | B  |                             | 86                              | 5.4                  | 02          |
| 88  | <b>16</b>    | 4.0                             | 358                               | 1.5                    | <b>6.0</b>                        | <b>536</b>                         | B                          | B  |                             | 82                              | 5.3                  | 03          |
| 70  | <b>20</b>    | 4.0                             | 447                               | 1.2                    | <b>4.9</b>                        | <b>546</b>                         | B                          | B  |                             | 82                              | 4.5                  | 04          |
| 61  | <b>23</b>    | 3.0                             | 377                               | 1.4                    | <b>4.1</b>                        | <b>515</b>                         | B                          | B  |                             | 80                              | 3.9                  | 05          |
| 47  | <b>30</b>    | 3.0                             | 467                               | 1.4                    | <b>4.2</b>                        | <b>651</b>                         | B                          | B  |                             | 76                              | 5.6                  | 06          |
| 37  | <b>38</b>    | 3.0                             | 583                               | 1.1                    | <b>3.3</b>                        | <b>641</b>                         | B                          | B  |                             | 75                              | 4.7                  | 07          |
| 31  | <b>45</b>    | 2.2                             | 493                               | 1.2                    | <b>2.7</b>                        | <b>599</b>                         | B                          | B  |                             | 73                              | 4.0                  | 08          |
| 26  | <b>53</b>    | 2.2                             | 557                               | 1.1                    | <b>2.5</b>                        | <b>620</b>                         | B                          | B  |                             | 70                              | 3.5                  | 09          |
| 22  | <b>64</b>    | 1.5                             | 452                               | 1.2                    | <b>1.8</b>                        | <b>536</b>                         | B                          |    |                             | 69                              | 2.9                  | 10          |
| 16.7  | <b>84</b>    | 1.1                             | 410                               | 1.2                    | <b>1.3</b>                        | <b>494</b>                         | B                          |    |                             | 65                              | 2.2                  | 11          |
| 14.1  | <b>99</b>    | 1.1                             | 446                               | 1.1                    | <b>1.2</b>                        | <b>483</b>                         | B                          |    |                             | 60                              | 1.9                  | 12          |

\* The nominal power should be reduced if the ambient temperature is  $\geq 30^\circ\text{C}$ , or when a cooler gearbox is required.

\* Diminuire la potenza nominale in caso di temperatura ambiente  $\geq 30^\circ\text{C}$  o se è richiesta una bassa temperatura di utilizzo del riduttore.

Motor Flanges Available  
Flange Motore Disponibili

B) Supplied with Reduction Bushing  
Fornito con Bussola di Riduzione

B) Available on Request without reduction bushing  
Disponibile a Richiesta senza Bussola di Riduzione

C) Motor Flange Holes Position  
Posizione Fori Flangia Motore

**EN** Unit I11 is supplied with synthetic oil, providing "long life" lubrication. For mounting position V5-V6 please contact us. See table 1 for lubrication and recommended quantity. In table 2 please see possible radial loads and axial loads on the gearbox.

**I** Il riduttore tipo I11 viene fornito lubrificato a vita con olio sintetico. Per posizioni V5-V6 contattare il ns. servizio tecnico. Vedi tab.1 per oli e quantità consigliati. In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

**D** Für die Lebensdauerschmierung ist das Getriebe der Größe I11 mit synthetischem Öl befüllt. Bei Einbaulage V5 oder V6 bitten wir um Rücksprache. In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben. In Tabelle 2 sind die zulässigen Radial- und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type I11 est fourni lubrifié à vie avec de l'huile synthétique. Concernant les positions V5.V6, contactez notre service d'assistance technique. Voir tableau 1 concernant les huiles et les quantités conseillées. Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

**E** El reductor tamaño I11 se suministra, lubricado de por vida con aceite sintético. Para las posiciones V5 y V6 contactar con nuestro servicio técnico. Ver tabla 1, para cantidades y aceites recomendados. En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

| Standard            | On request |         |                       |         |         |
|---------------------|------------|---------|-----------------------|---------|---------|
|                     |            |         |                       |         |         |
| 3.50 LT             | 2.50 LT    | 2.50 LT | 2.10 LT               | 1.60 LT | 1.60 LT |
| AGIP Telium VSF 320 |            |         | SHELL Omala S4 WE 320 |         |         |

For all details on lubrication and plugs check our website **tab. 1**  
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

#### RADIAL AND AXIAL LOADS

| Output shaft<br>Albero di uscita | $n_2$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|----------------------------------|-------------------------------|-----------|-----------|
|                                  | 200                           | 600       | 2900      |
|                                  | 150                           | 700       | 3300      |
|                                  | 100                           | 750       | 3600      |
|                                  | 75                            | 800       | 4000      |
|                                  | 50                            | 920       | 4600      |
|                                  | 25                            | 1200      | 6000      |
| 15                               | 1400                          | 7000      |           |

| Input shaft<br>albero in entrata | $n_1$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|----------------------------------|-------------------------------|-----------|-----------|
|                                  | 1400                          | 228       | 1140      |

**\*Strong axial loads in the DX direction are not allowed.**  
Non sono consentiti forti carichi assiali con direzione DX

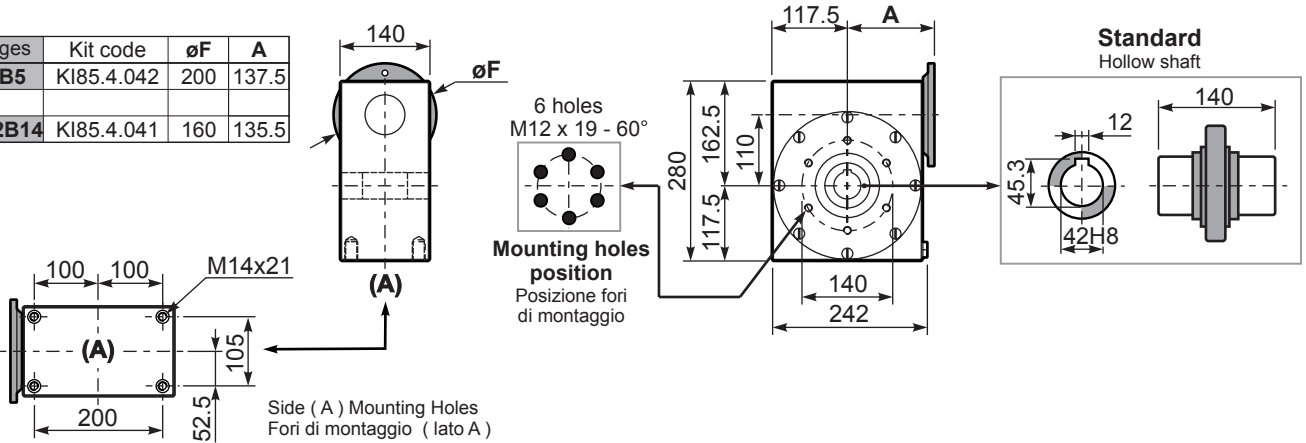
tab. 2



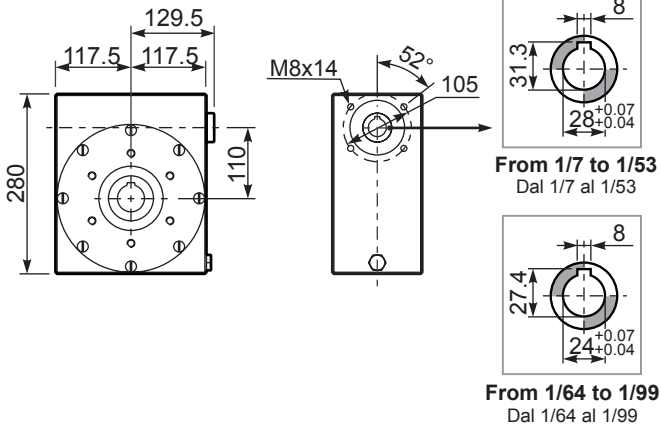
Gearbox weight  
peso riduttore **38.5 kg**

PI11UN... Basic wormbox  
Riduttore base

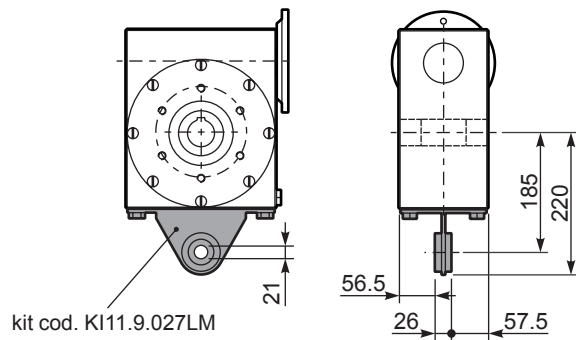
| M. flanges | Kit code   | øF  | A     |
|------------|------------|-----|-------|
| 80-90B5    | KI85.4.042 | 200 | 137.5 |
| 100-112B14 | KI85.4.041 | 160 | 135.5 |



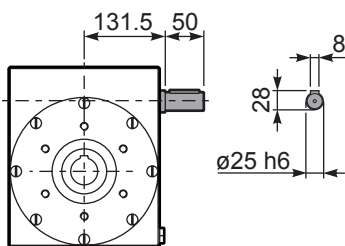
BI11UN... Modular base  
Base modulare



PI11BR... Reaction arm  
Braccio di reazione

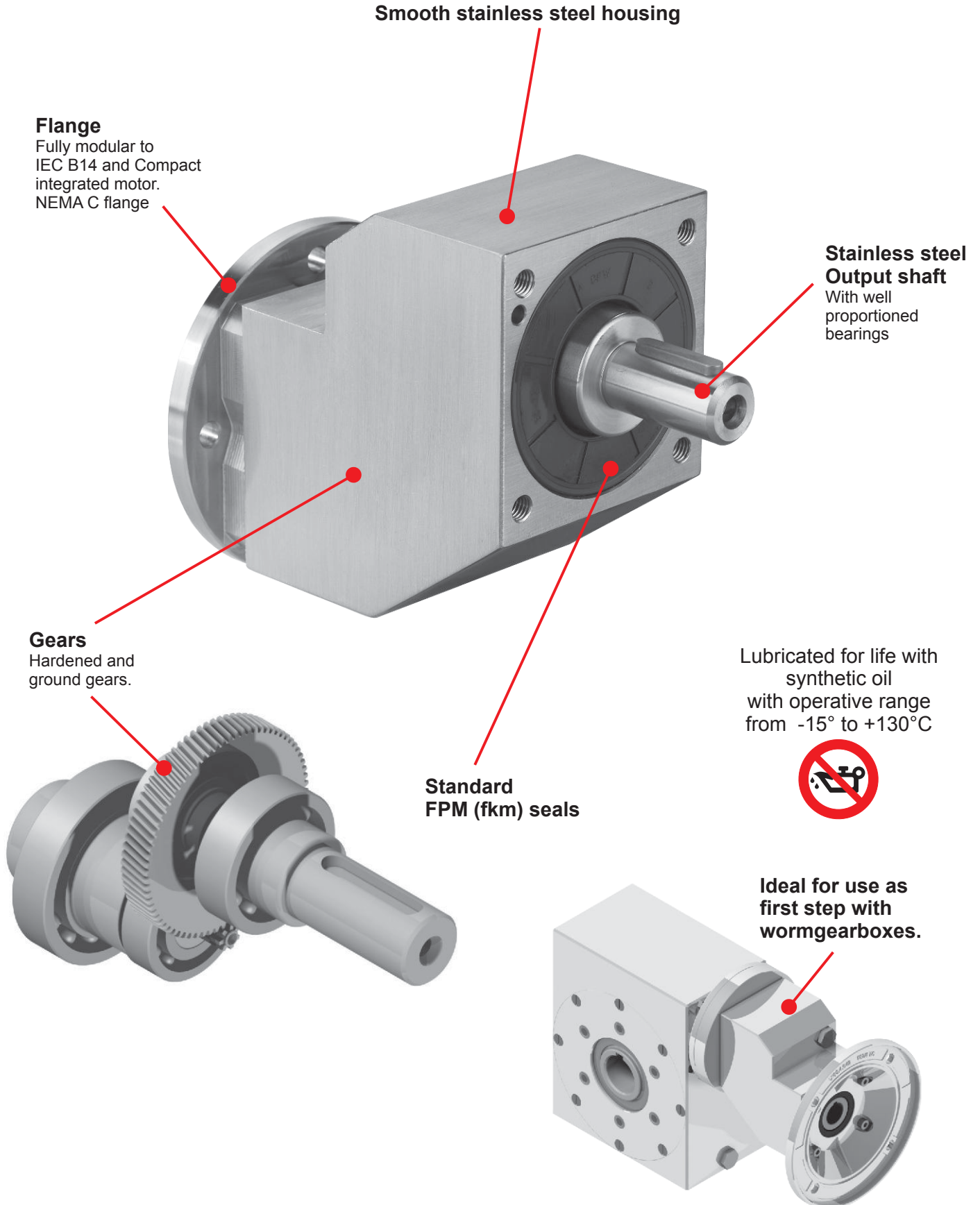


RI11UN... Input shaft  
Albero in entrata



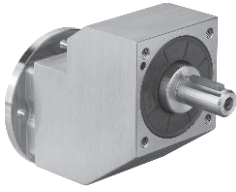
# Stainless steel one step gearboxes

A modular and compact product



# Specific type datasheet on page...

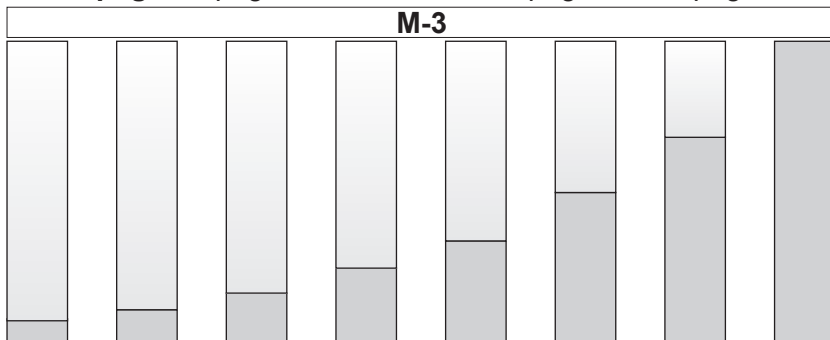
On page / A pagina / Auf Seite / À la page / En la página



Types / Tipi /  
Tipen / Types /  
Tipos →

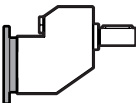
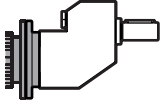
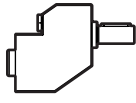
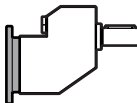
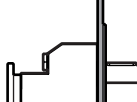
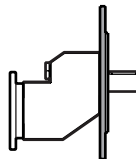
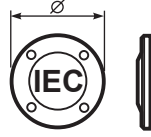
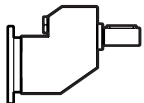
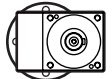
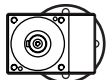
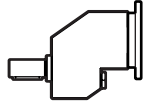
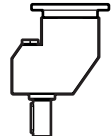
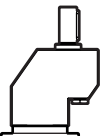
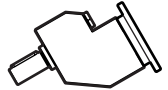
**411I**  
38Nm

On page / A pagina / Auf Seite / À la page / En la página



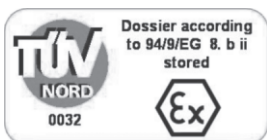
Types / Tipi /  
Tipen / Types /  
Tipos →

| M-3             |                 |                 |                 |               |                  |              |              |
|-----------------|-----------------|-----------------|-----------------|---------------|------------------|--------------|--------------|
| <b>63B</b>      | <b>71A</b>      | <b>71B</b>      | <b>80A</b>      | <b>80B</b>    | <b>90S</b>       | <b>90L</b>   | <b>100LA</b> |
| 0.18kw<br>1/4cv | 0.25kw<br>1/3cv | 0.37kw<br>1/2cv | 0.55kw<br>3/4cv | 0.75kw<br>1cv | 1.1kw<br>1 1/2cv | 1.5kw<br>2cv | 2.2kw<br>3cv |

| Type - Tipo Typ<br>Type - Tipo   | Size - Grandezza<br>Grösse - Taille<br>Tamaño   | Mounting<br>Montaggio<br>Montage<br>Fixation<br>Tipo de montaje  | Ratio - Rapporto<br>Untersetzung<br>Reduction<br>Relación   | Output shaft<br>Albero lento<br>Abtriebswelle<br>Arbre de sortie<br>Eje solida   | Output flange<br>Flangia uscita<br>Ausgangsflansch<br>Bride de sortie<br>Brida en salida  | Motor size<br>Grandezza motore<br>Motor Grösse<br>Grandeur moteur<br>Tamaño motor  | Mounting position<br>Posizione montaggio<br>Einbaulage<br>Position de montage<br>Position de montaje   |
|--|---|--|---|--|---|--|--|
| <b>P</b>   | <b>411I</b>   | <b>-F</b>  | <b>1.57</b>   | <b>C</b>   | <b>4</b>  | <b>-Q</b>  | <b>B3</b>  |
| <br><b>P</b><br><br><b>M</b><br><br><b>B</b> | <div style="background-color: #cccccc; padding: 5px; text-align: center; font-weight: bold;">411I</div> | <br><b>-N</b><br><br><b>-F</b> | <p>See technical data table</p> <p>Vedi tabella dati tecnici.</p> <p>Technisches Datenblatt beachten</p> <p>Voir Tableau données techniques</p> <p>Ver tabla datos técnicos</p> | <p>→ STANDARD</p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">411I</div><br><b>C</b> → <b>∅19</b> | <br><b>N</b> Senza flangia<br>Without flange<br><div style="border: 1px solid black; padding: 2px; display: inline-block;">411I</div><br><b>4</b> → <b>∅200</b> | <br><div style="border: 1px solid black; padding: 2px; display: inline-block;">411I</div><br><b>-Q</b> 71B14 (∅105)<br><b>-R</b> 80B14 (∅120)<br><b>-T</b> 90B14 (∅140)<br><div style="border: 1px solid black; padding: 2px; display: inline-block;">411I</div><br>Without flange<br>Senza flangia<br><div style="border: 1px solid black; padding: 2px; display: inline-block;">411I</div><br><b>-1</b> ⇒ <b>∅14</b> (71B5)<br><b>-2</b> ⇒ <b>∅19</b> (80B5)<br><b>-3</b> ⇒ <b>∅24</b> (90B5) | <div style="border: 1px solid black; padding: 5px; text-align: center;"> <br/> <b>B3</b><br/>                     STANDARD                 </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <br/> <b>B6</b> </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <br/> <b>B7</b> </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <br/> <b>B8</b> </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <br/> <b>V5</b> </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <br/> <b>V6</b> </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <br/> <b>V8</b> </div> |

## On request

**B** Food lube



On request we can deliver our products according to the ATEX  
 A richiesta possiamo fornire i nostri prodotti secondo le normative ATEX  
 Auf Anfrage können wir unsere Produkte den Richtlinien ATEX entsprechend liefern  
 Sur demande nos produits peuvent se conformer à la réglementation ATEX  
 A pedido, se pueden enviar nuestros productos de acuerdo con las normas ATEX.

- B3 is supplied with standard oil quantity

- Please specify in the order if you required other mounting positions

POTENZA RICHIESTA / REQUIRED POWER / ERFORDERLICHE LEISTUNG / PUISSANCE NECESSAIRE / POTENCIA NECESARIA

Lifting / sollevamento / hubantriebe / levage / elevación

$$P \text{ [KW]} = \frac{M \text{ [Kg]} \cdot g \text{ [9.81]} \cdot v \text{ [m / s]}}{1000}$$

Rotation / rotazione / drehung / rotation / rotação

$$P \text{ [KW]} = \frac{M \text{ [Nm]} \cdot n \text{ [rpm]}}{9550}$$

Linear movement / traslazione / linearbewegung / translation / translación

$$P \text{ [KW]} = \frac{F \text{ [N]} \cdot v \text{ [m / s]}}{1000}$$

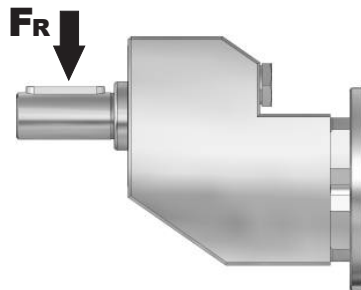
TORQUE / COPPIA / DREHMOMENT / COUPLE / PAR

$$M \text{ [Nm]} = \frac{9550 \cdot P \text{ [KW]}}{n \text{ [rpm]}}$$

$$M \text{ [lb in]} = \frac{63030 \cdot P \text{ [HP]}}{n \text{ [rpm]}}$$

RADIAL LOADS / CARICHI RADIALI / RADIALE - UND AXIALLASTEN / CHARGES RADIALES / CARGA RADIAL Y AXIAL

- Radial load generated by external transmissions keyed onto input and/or output shafts.
- Forza radiale generata da organi di trasmissione calettati sugli alberi di ingresso e/o uscita.
- Belastungen der Antriebs- bzw. Abtriebswellen durch von aussen eingebrachte Radiallasten.
- Charge radiale générée par la transmissions calés sur les entrées et / ou des arbres de sortie
- Cargas radiales, generada por transmisiones externas, aplicadas sobre los ejes de entrada y/o salida



|                      |  |  |
|----------------------|--|--|
|                      | $F_R \text{ [N]} = \frac{M \text{ [Nm]} \cdot 2000}{d \text{ [mm]}} \cdot f_k$   | $F_R \text{ [N]} = \frac{M \text{ [lb in]} \cdot 8.9}{d \text{ [in]}} \cdot f_k$ |
| <b>M</b>             | Momento torcente / Output torque / Abtriebsdrehmoment / Couple / Par torsion   |  |
| <b>d</b>             | Diametro primitivo / Diam. of driving element / Durchmesser der Abtriebseinheit / Diamètre primitif / Diámetro primitivo   |  |
| <b>f<sub>k</sub></b> | Coefficiente di trasformazione / Factor / Faktor / Coefficient de transmission / Coeficiente de transmisión<br><b>1.15</b> Ingranaggi / Gearwheels / Zahnrad / Engrenage / Engranaje<br><b>1.25</b> Catena / Chain sprockets / Antriebskette / Chaîne / Cadena<br><b>1.75</b> Cinghia Trapezoidale / Narrow v-belt pulley / Keilriemen / Courroie trap. / Correa trapezoidal<br><b>2.50</b> Cinghia piatta / Flat-belt pulley / Flachzahnriem. / Courroie crantée / Correa plana |  |

- If your application requires higher radial loads, contact our technical office. Higher load may be possible.
- Nel caso la vostra applicazione richieda carichi radiali superiori consultare il nostro ufficio tecnico, valori maggiori possono essere accettati.
- Wenn Ihre Anwendung höhere Radialbelastungen erfordert, so wenden Sie sich bitte an unser technischen Büro.
- Si votre application demande des charges radiales supérieures, s'adresser à notre bureau technique.
- En el caso en que una aplicación exija una carga radial superior a la especificada en el catálogo, consultar a nuestra oficinas técnica.

How to select a gearbox / Come selezionare un riduttore / Wie wählt man ein Getriebe  
Comment sélectionner un réducteur / Cómo seleccionar un reductor

**B** Output speed  
Velocità in uscita  
Abtriebsdrehzahl  
Vitesse de sortie  
Velocidad de salida

Nominal power  
Potenza nominale  
Max. mögliche Leistung  
Poissance nominale  
Potencia nominal

Gear size  
Grandezza riduttore  
Getriebegröße  
Taille réducteur  
Tamaño reductor

Motor power  
Potenza motore  
Motorleistung  
Puissance moteur  
Potencia motor

**A** Nominal torque  
Momento torcente nominale  
Nenn Drehmoment  
Couple nominal  
Par de torsión nominal

Flange code  
Codice flangia  
Flanschtype  
Code bride  
Código bridas



Input speed  
Velocità in entrata  
Eintriebsdrehzahl  
Vitesse en entrée  
Velocidad de entrada

**4111** One step **38Nm**

Rating - Stainless ONE STEP GEARBOXES

QUICK SELECTION / Selezione veloce

input speed (n<sub>1</sub>) = 1400 min<sup>-1</sup>

| Output Speed<br>n <sub>2</sub><br>[min <sup>-1</sup> ] | Ratio<br>i | Motor power<br>P <sub>1M</sub><br>[kW] | Output torque<br>M <sub>2M</sub><br>[Nm] | Service factor<br>f.s. | Nominal power<br>P <sub>1R</sub><br>[kW] | Nominal torque<br>M <sub>2R</sub><br>[Nm] | B5 motor flanges<br>not available |   |   |   | Available<br>B14 motor flanges |    |    | Output Shaft<br> | Notes<br>Note<br>Anmerkungen<br>Note<br>Notas |   |
|--|------------|--|--|------------------------|--|---|-----------------------------------|---|---|---|--------------------------------|----|----|---|---|---|
|  |            |  |  |                        |  |   | -                                 | - | - | - | -Q                             | -R | -T |   |   |  |
| 892  | 1.57       | 1.5                                    | 15.7                                     | 1.3                    | 1.90                                     | 20  | -                                 | - | - | - | C                              | C  |    | 2844  | standard<br>ø19                               | 01  |
| 493  | 2.84       | 1.5                                    | 28.4                                     | 1.2                    | 1.84                                     | 35  | -                                 | - | - | - | C                              | C  |    | 1954  |   | 02  |
| 426  | 3.29       | 1.5                                    | 32.9                                     | 1.2                    | 1.73                                     | 38  | -                                 | - | - | - | C                              | C  |    | 1756  |   | 03  |
| 362  | 3.87       | 1.5                                    | 38.7                                     | 1.0                    | 1.54                                     | 40  | -                                 | - | - | - | C                              | C  |    | 1558  |   | 04  |

**C** Ratio  
Rapporto  
Untersetzung  
Rapport de réduction  
Relación

Output shaft diam.  
Diam. albero uscita  
Durchmesser abtriebswelle  
Diametre arbre lent  
Diametro eje de salida

Notes  
Note  
Anmerkungen  
Note  
Notas

Transmitted torque  
Momento torcente trasmesso  
Mögliche Drehmomente  
Couple de sortie  
Par transmitido

Service factor  
Fattore di servizio  
Betriebsfaktor  
Facteur de service  
Factor de servicio

**fs**

| Type of load and starts per hour<br>Tipo di carico e avviamenti per ora  |                     | Oper. hours per day<br>Ore di funz. giorn. |      |      |
|--|---------------------|--|------|------|
|  |                     | 3 h  | 10 h | 24 h |
| Continuous or intermittent<br>appl. with start / hour<br>Applicazione cont. o interm.<br>con n.ro operazioni/ora | Uniform / Uniforme  | 0.8  | 1    | 1.25 |
|  | Moderate / Moderato | 1  | 1.25 | 1.5  |
|  | Heavy / Forte       | 1.25                                       | 1.5  | 1.75 |
| Intermittent application<br>with start / hour<br>Applicazione intermittente<br>con n.ro operazioni/ora           | Uniform / Uniforme  | 1  | 1.25 | 1.5  |
|  | Moderate / Moderato | 1.25                                       | 1.5  | 1.75 |
|  | Heavy / Forte       | 1.5  | 1.75 | 2.15 |

**D** Motor flange available  
Flange disponibili  
Erhältliche Motorflansche  
Brides disponibles  
Bridas disponibles

**B)** Mounting with reduction ring  
Montaggio con boccola di riduzione  
Reduzierhülsen  
Montage avec douille de réduction  
Montaje con casquillo de reducción

**C)** Motor flangeholes position/terminal box position  
Posizione fori flangia/basetta motore  
Bohrungsposition am Motorflansch/-socket  
Position trous bride/barrette à bornes moteur  
Posición agujeros brida / base motor

**B)** Available without reduction bushes  
Disponibile anche senza boccola  
Auch ohne Reduzierbuchse verfügbar  
Disponible aussi sans douille de réduction  
Disponible tambien sin casquillo

|          |  |   |   |   |   |
|----------|--|---|---|---|---|
| <b>A</b> | Select required torque<br>(according to service factor)                      | Seleziona la coppia<br>desiderata (comprensiva<br>del fattore di servizio)                                | Max. Drehmoment in Bezug<br>zum Betriebsfaktor  | Sélectionner le couple<br>souhaité (comprenant le<br>facteur de service )                                 | Seleccionar el par deseado<br>(incluyendo el factor de<br>servicio)   |
| <b>B</b> | Select output speed  | Seleziona la velocità in<br>uscita  | Ausgewählte<br>Abtriebsdrehzahl   | Sélectionner la vitesse de<br>sortie  | Seleccionar la velocidad de<br>salida   |
| <b>C</b> | On the same line of selected<br>geared motor, you can find<br>the gear ratio | Sulla riga corrispondente<br>alla motorizzazione<br>prescelta si può rilevare il<br>rapporto di riduzione | Auf der gleichen Linie wie<br>die ausgewählte<br>Motorleistung steht auch die<br>Getriebeuntersetzung | Sur la ligne correspondant<br>à la motorisation pré-choisie<br>on peut relever le rapport de<br>réduction | En la línea correspondiente<br>al motor preseleccionado es<br>posible encontrar la relación<br>de reducción |
| <b>D</b> | Select motor flange<br>available<br>(if requested)                           | Scegli la flangia disponibile<br>(se richiesta)   | Erhältliche Motorflansche<br>(auf Anfrage)  | Choisir la bride disponible<br>( si elle est demandée )   | Seleccionar la brida<br>disponible (sobre pedido)   |





### QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | B5 motor flanges<br>not available |   |   |   | Available<br>B14 motor flanges |   |   | Output Shaft<br> | Ratios<br>code        |    |
|---|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|-----------------------------------|---|---|---|--------------------------------|---|---|------------------|-----------------------|----|
|   |              |                                 |                                   |                        |                                   |                                    | -                                 | - | - | - | Q                              | R | T |                  |                       |    |
| 891   | <b>1.57</b>  | 1.5                             | 16                                | 1.3                    | <b>1.9</b>                        | <b>20</b>                          | -                                 | - | - | - | C                              | C |   | 2844             | standard<br>$\phi 19$ | 01 |
| 493   | <b>2.84</b>  | 1.5                             | 28                                | 1.2                    | <b>1.8</b>                        | <b>35</b>                          | -                                 | - | - | - | C                              | C |   | 1954             |                       | 02 |
| 425   | <b>3.29</b>  | 1.5                             | 33                                | 1.2                    | <b>1.7</b>                        | <b>38</b>                          | -                                 | - | - | - | C                              | C |   | 1756             |                       | 03 |
| 362   | <b>3.87</b>  | 1.5                             | 39                                | 1.0                    | <b>1.5</b>                        | <b>40</b>                          | -                                 | - | - | - | C                              | C |   | 1558             |                       | 04 |
| 303   | <b>4.62</b>  | 1.5                             | 46                                | 1.0                    | <b>1.5</b>                        | <b>47</b>                          | -                                 | - | - | - | C                              | C |   | 1360             |                       | 05 |
| 222   | <b>6.30</b>  | 1.1                             | 46                                | 1.0                    | <b>1.1</b>                        | <b>46</b>                          | -                                 | - | - | - | C                              | C |   | 1063             |                       | 06 |
| 170   | <b>8.22</b>  | 0.55                            | 30                                | 1.3                    | <b>0.69</b>                       | <b>38</b>                          | -                                 | - | - | - | C                              | C |   | 974              |                       | 07 |
| 129   | <b>10.86</b> | 0.37                            | 27                                | 1.0                    | <b>0.39</b>                       | <b>28</b>                          | -                                 | - | - | - | C                              | C |   | 776              |                       | 08 |

The dynamic efficiency is **0.98** for all ratios

\* The nominal power should be reduced if the ambient temperature is  $\geq 30^\circ\text{C}$ , or when a cooler gearbox is required.

\* Diminuire la potenza nominale in caso di temperatura ambiente  $\geq 30^\circ\text{C}$  o se è richiesta una bassa temperatura di utilizzo del riduttore.

**A) Motor Flanges Available**  
Flange Motore Disponibili

**B) Supplied with Reduction Bushing**  
Fornito con Bussola di Riduzione

**B) Available on Request without reduction bushing**  
Disponibile a Richiesta senza Bussola di Riduzione

**C) Motor Flange Holes Position**  
Posizione Fori Flangia Motore

**EN** Unit 4111 is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary.

**I** Il riduttore 4111 viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione.

**D** Das Getriebe 4111 ist mit synthetischem Öl gefüllt und ist lebensdauer geschmiert.

**F** Le réducteur 4111 est fourni complet avec de l'huile synthétique pour la lubrification permanente et ne nécessite aucun entretien.

**E** El reductor tamaño 4111 se suministra, lubricado de por vida con aceite sintético y no requieren mantenimiento alguna.

### LUBRICATION 4111 Oil Quantity 0.14 Lt.

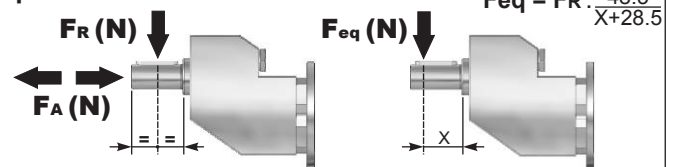
**AGIP** Telium VSF 320

**SHELL** Omala S4 WE 320

For all details on lubrication and plugs check our website

Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

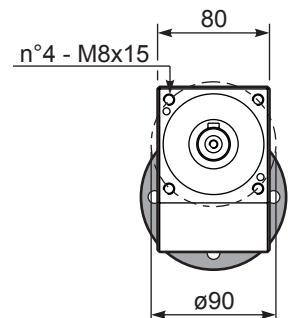
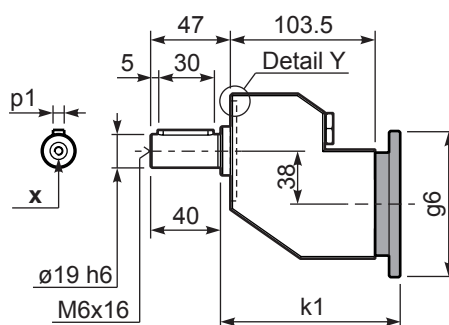
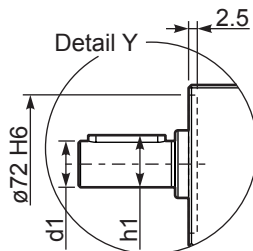
Output shaft / Albero di uscita



| $n_2$ | FA  | FR   | $n_2$ | FA  | FR   | $n_2$ | FA  | FR   |
|-------|-----|------|-------|-----|------|-------|-----|------|
| 700   | 182 | 910  | 400   | 230 | 1150 | 200   | 290 | 1450 |
| 600   | 200 | 1000 | 300   | 250 | 1250 | 140   | 320 | 1600 |

**P4111-N...** Basic gearbox  
Riduttore base

Gearbox weight  
peso riduttore **5.5 kg**



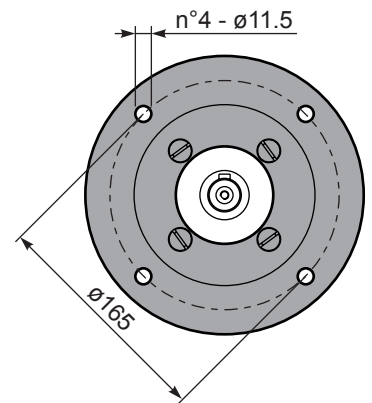
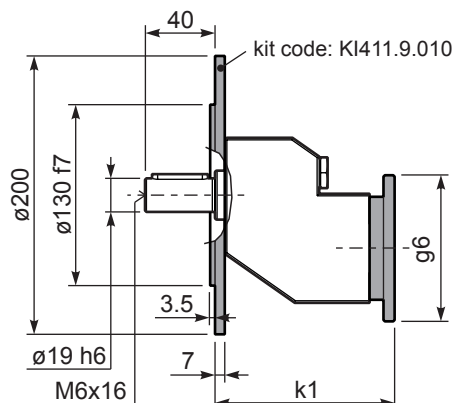
Output shafts / albero di uscita

|          | Shaft - d1          | p1 | h1   | x     |
|----------|---------------------|----|------|-------|
| Standard | $\phi 19 \times 40$ | 6  | 21.5 | M6x16 |

**P4111-F...** Output flange  
flangia di uscita

Input flanges / flange di entrata

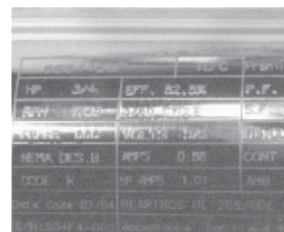
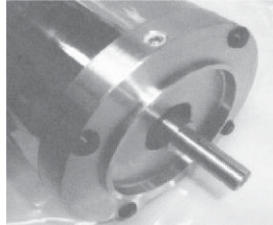
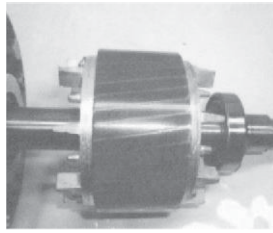
|        | k1    | g6  | kit code   |
|--------|-------|-----|------------|
| 71 B14 | 128.5 | 105 | KI63.4.047 |
| 80 B14 | 129.5 | 120 | KI63.4.046 |
| 90 B14 | 130.5 | 140 | KI63.4.041 |



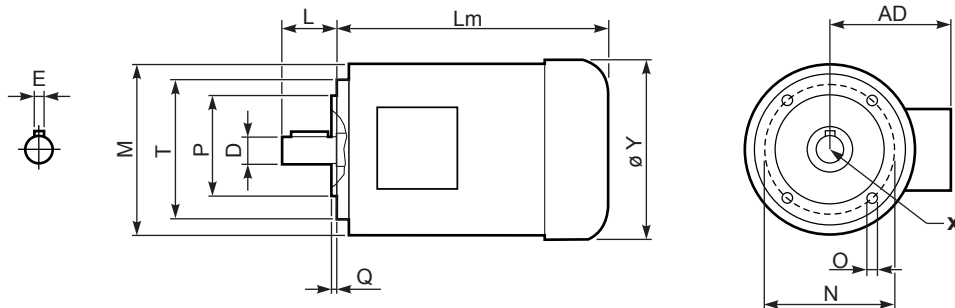


**Features**

- 1) 300 Series Stainless Steel Construction.
- 2) Inverter duty
- 3) Washdown Duty Applications.
- 4) BISSC Certified.
- 5) Corrosion Resistant.
- 6) Laser Etched Nameplate.
- 7) Oversized Bearings on both ends  
c/w Locked Drive-end Bearing  
Construction.
- 8) Oversized Conduit Box c/w Lead  
Seal.
- 9) Drill & Tapped Drains.
- 10) T-Drain included.
- 11) Double Lip Contact Seals.



**B14**



**Outside dimensions may be different according to manufacturers.**

Le dimensioni esterne sono indicative, possono variare tra i vari costruttori.

|            | 4 poli / poles |      |             | D  | E | L    | Lm  | Y   | AD  | P   | N   | M   | T   | O  | Q   | X      | Kg   |
|------------|----------------|------|-------------|----|---|------|-----|-----|-----|-----|-----|-----|-----|----|-----|--------|------|
|            | kW             | Nm   | A<br>(400V) |    |   |      |     |     |     |     |     |     |     |    |     |        |      |
| <b>63</b>  | <b>0.18</b>    | 1.30 | 0.69        | 11 | 4 | 23.5 | 252 | 128 | 106 | 60  | 75  | 114 | 90  | M5 | 2.5 | -      | 8.2  |
| <b>71</b>  | <b>0.25</b>    | 1.70 | 0.91        | 14 | 5 | 30.5 | 228 | 146 | 115 | 70  | 85  | 134 | 105 | M6 | 2.5 | M5x20  | 8.3  |
|            | <b>0.37</b>    | 2.52 | 1.14        |    |   |      | 252 |     |     |     |     |     |     |    |     |        | 10.4 |
| <b>80</b>  | <b>0.55</b>    | 3.77 | 1.51        | 19 | 6 | 40   | 300 | 158 | 115 | 80  | 100 | 144 | 120 | M6 | 3   | M6x25  | 17.5 |
|            | <b>0.75</b>    | 5.11 | 2.57        |    |   |      | 367 |     |     |     |     |     |     |    |     |        |      |
| <b>90</b>  | <b>1.1</b>     | 7.45 | 2.78        | 24 | 8 | 50   | 321 | 174 | 135 | 95  | 115 | 165 | 140 | M8 | 3   | M8x25  | 22.4 |
|            | <b>1.5</b>     | 10.2 | 3.61        |    |   |      | 367 |     |     |     |     |     |     |    |     |        | 27.6 |
| <b>100</b> | <b>2.2</b>     | 14.8 | 5.07        | 28 | 8 | 60   | 374 | 203 | 150 | 110 | 130 | 190 | 160 | M8 | 3.5 | M10x25 | 33.5 |

| Tecnical data                       |
|-------------------------------------|
| - Voltage: 230 / 400V               |
| - Phase: 3                          |
| - Frequency: 50Hz                   |
| - Poles: 4                          |
| - International protections : IP 65 |
| - Insulation class: F               |
| - Duty: S1                          |

A series of horizontal lines for writing notes.



**Please Read Carefully**

The following WARNING and CAUTION information is supplied to you for your protection and to provide you with many years of trouble free and safe operation of your product.

Read ALL instructions prior to operating reducer. Injury to personnel or reducer failure may be caused by improper installation, maintenance or operation.

**WARNING:**

- Written authorization is required to operate or use reducers in man lift or people moving devices.
- Check to make sure that certain applications do not exceed the allowable load capacities published in the current catalog.
- Buyer shall be solely responsible for determining the adequacy of the product for any and all uses to which Buyer shall apply the product. The application by Buyer shall not be subject to any implied warranty of fitness for a particular purpose.
- For safety, Buyer or User should provide protective guards over all shaft extensions and any moving apparatus mounted thereon. The User is responsible for checking all applicable safety codes in his area and providing suitable guards. Failure to do so may result in bodily injury and/or damage to equipment.
- Gearboxes operating in high position should have a protective shield for any possible parts falling down for casual accidents where people are moving under them.
- Hot oil and reducers can cause severe burns. Use extreme care when removing lubrication plugs and vents.
- Make certain that the power supply is disconnected before attempting to service or remove any components. Lock out the power supply and tag it to prevent unexpected application power.
- Reducers are not to be considered fail safe or self-locking devices. If these features are required, a properly sized, independent holding device should be utilized. Reducers should not be used as a brake.
- Any brakes that are used in conjunction with a reducer must be sized or positioned in such a way so as to not subject the reducer to loads beyond the catalog rating.
- Lifting supports including eyebolts are to be used for vertically lifting the gearbox only and not other associated attachments or motors.
- Use of an oil with an EP additive on units with backstops may prevent proper operation of the backstop. Injury to personnel, damage to the reducer or other equipment may result.
- Overhung loads subject shaft bearings and shafts to stress which may cause premature bearing failure and or shaft breakage from bending fatigue, if not sized properly.

**SELLING CONDITIONS**

Warranty for manufacturing defects will expire one-year the invoicing date. Hydro-Mec will replace or repair defective parts but will not accept any further changes for direct or indirect damages of any kind. The warranty will become null and void if repairs or changes are carried out without our prior written authorization.

**Our company will not be responsible for any direct or indirect damages, caused by a wrong use of the products or for not observing the catalogue/web indication**

**Leggere attentamente**

Le seguenti raccomandazioni sono fondamentali per la vostra protezione e per garantirvi molti anni di sicuro funzionamento del vostro prodotto senza alcun problema.

Leggere attentamente tutte le istruzioni prima di azionare il riduttore. L'inappropriata installazione, manutenzione o funzionamento del riduttore può causare incidenti al personale addetto e danni al riduttore stesso.

**ATTENZIONE:**

- E' richiesta autorizzazione scritta per azionare riduttori in ascensori o dispositivi per il movimento delle persone.
- Controllare che alcune applicazioni non eccedano la massima capacità di carico ammessa pubblicata in questo catalogo.
- L'acquirente è l'unico responsabile per la determinazione dell'adeguatezza del prodotto per qualcuna o tutte le utilizzazioni che l'acquirente stesso farà del riduttore. L'applicazione dell'acquirente non potrà essere soggetta ad alcuna implicita garanzia di montaggio per uno scopo particolare.
- Per ragioni di sicurezza l'acquirente dovrà provvedere a porre protezioni adeguate su tutta la lunghezza dell'albero a tutti gli organi in movimento. L'utilizzatore è responsabile del controllo di tutti i codici di sicurezza e la predisposizione di protezioni adeguate. In assenza di tali precauzioni si possono verificare incidenti alle persone e danni agli apparati.
- Su riduttori installati in posizioni elevate utilizzare protezioni adeguate per qualsiasi distacco accidentale di parti nel caso di passaggio di persone al di sotto.
- Olio e riduttori bollenti possono causare gravi ustioni. Usare estrema cautela nella rimozione dei tappi e delle ventole.
- Assicurarsi che la corrente di alimentazione sia scollegata prima di riparare o rimuovere alcun componente. Chiudere l'alimentazione e contrassegnare tale operazione per evitare accensioni accidentali.
- I riduttori non devono essere considerati esenti da guasti o a bloccaggio automatico. Se sono indispensabili queste caratteristiche, deve essere utilizzato un dispositivo indipendente della dimensione adatta. I riduttori non devono essere utilizzati come freni.
- Qualsiasi freno sia utilizzato insieme al riduttore deve essere della giusta grandezza e posizionato in modo da non causare carichi eccessivi non previsti dai dati forniti nel catalogo.
- I dispositivi di sollevamento come le golfare devono essere usati solo per sollevare verticalmente il riduttore e non altri dispositivi associati o motori.
- L'utilizzo di un olio con un additivo EP su gruppi provvisti di dispositivo di arresto possono inficiare l'uso corretto del freno e provocare danni alle persone, alle cose ed al riduttore stesso nonché ad altri apparecchi.
- I Carichi sospesi assoggettano i cuscinetti della vite e la vite stessa a sollecitazioni che possono causare, se non adeguatamente dimensionati, l'usura prematura dei cuscinetti e/o la rottura della vite a causa della resistenza alla flessione.

**CONDIZIONI DI VENDITA**

La garanzia relativa a difetti di costruzione ha la durata di un anno dalla data di fatturazione della merce. Tale garanzia comporta per Hydro-mec l'onere della sostituzione o riparazione delle parti difettose ma non ammette ulteriori addebiti per eventuali danni diretti o indiretti di qualsiasi natura.

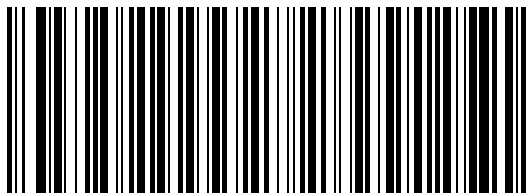
La garanzia decade nel caso in cui siano state eseguite riparazioni o apportate modifiche senza nostro consenso scritto.

**La nostra ditta non si ritiene responsabile per eventuali danni diretti o indiretti derivanti da un uso improprio dei prodotti e dalla mancata osservanza delle indicazioni riportate a catalogo o web..**

# HYDRO-MEC

[www.hydromec.com](http://www.hydromec.com)

Distributed from



CT - S S M - I - HM0 1 5